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NOURISH PROJECT

BASELINE SURVEY REPORT

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Prepared by Save the Children

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SNV

THE MANOFF GROUP

June 2016

NOURISH Project

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Led by Save the Children, NOURISH is implemented in Cambodia in partnership with five local and international partners: Operations Enfants du Cambodge, Partners in Compassion, SNV, The Manoff Group, and Wathnakpheap.

EXECUTIVE SUMMARY

Background: This document reports the findings of the United States Agency for International Development (USAID) and United States Presidential Initiative Feed the Future (FTF)-supported NOURISH Project cross-sectional baseline. The NOURISH Project seeks to reduce the proportion of children in Cambodia who are stunted and to begin to break the intergenerational malnutrition cycle and halt productivity losses. NOURISH works to accelerate stunting reduction by focusing directly on the causal factors of chronic malnutrition specific to Cambodia: lack of access to diverse and quality food, lack of adequate feeding and care practices and unsanitary environments.

Survey Design and Methodology: The baseline captures data on the nutritional status of women and children and behaviors related to the three pillars of the project's approach to integrated nutrition: health, water, sanitation and hygiene (WASH) and agriculture. The sampling frame was women of reproductive age and caregivers of children under five years in the NOURISH Project area. Results will be compared to an endline survey conducted toward the end of the project to assess NOURISH outcomes and impact.

The survey received approval from the National Ethical Committee for Health Research in Cambodia and the Save the Children Ethical Review Board. All procedures followed ethical standards to ensure that participation was informed and voluntary and maintained confidentiality at all stages. Selected through a competitive bid process, the Royal University of Agriculture (RUA) of Cambodia collected the baseline data in November 2015.

The cross-sectional survey sampled respondents from 90 villages across the NOURISH Project target area. The survey used a multi-stage cluster methodology using communes and villages: 30 communes were randomly selected from the three provinces, proportionate to population size. From these communes, 90 villages were randomly selected again based on the population distribution. Data were sampled to represent the full project area and are not for province-specific disaggregation. Respondents were randomly selected from household lists. The sample size was calculated for 95% confidence intervals on key variables. The sample of 1,347 women included 16.6% women of reproductive age (15-49 years) (n=223), 26.6% pregnant women (n=358) and 56.9% primary caregivers of children under 59 months (n=766). To capture exclusive breastfeeding, the survey purposely oversampled children under six months of age. As a result, anthropometric data of children 0-59 months were weighted to reflect the normal distribution of ages in the population of children under five years.

Data collection tools utilized validated Cambodia Demographic and Health Survey (CDHS) questions and Feed the Future guidance, combined into the following modules:

Women of Reproductive Age Questionnaire Modules	**Caregiver Questionnaire Modules**
• Demographic characteristics • Maternal health • Anthropometry (non-pregnant women only) • Anemia • Water, hygiene and sanitation (WASH) • Homestead agriculture	• Demographic characteristics • Maternal health • Anthropometry of children 0- 59 mos. • Anemia of children 6-59 mos. • Child care • Infant and Young Child feeding • WASH • Homestead agriculture

Data were entered and analyzed in SPSS except anthropometric data on weights and heights. Anthropometric data were entered and analyzed in WHO's Anthro software and then exported into SPSS 23.0 for combined analysis[1]. Twenty percent of questionnaires were re-entered to check data entry accuracy.

[1] http://www.who.int/nutgrowthdb/software/en/

Baseline Survey Summary Results:

Impact Indicators to Measure Nutritional Status and Well-being of Women and Children in Rural NOURISH-supported Communities at Baseline:	
Prevalence of anemia among non-pregnant women of reproductive age and pregnant women	41.5%; 52.4%
Prevalence of anemia among children 6-59 months	59.4%
Prevalence of stunted children under 5 years of age	34.3%
Prevalence of underweight children under 5 years of age	16.9%
Prevalence of wasted children under 5 years of age	8.5%
Prevalence of underweight women	14.8%

Outcome Indicators to Measure Practice of Key Nutrition Behaviors and Timely Realization of Child Development Milestones at Baseline:	
Women's Dietary Diversity: Mean number of food groups consumed	4.67
Prevalence of exclusive breastfeeding of children under 6 months	77.8%
Prevalence of children 6-23 months receiving a minimum acceptable diet	25.5%
% parents/caregivers of children 0-23 months providing age-appropriate stimulation of children according to child care and development standards	62.6%
% of children age 9-11 months who received enriched solid, semi-solid, or soft foods with frequency in the last 24 hours	46.3%

Outcome Indicators to Measure Use of Improved Sanitation Facilities and Practice of Key Water and Hygiene Behaviors at Baseline:	
% of households (of women of reproductive age and children under 5) in the target area using an improved latrine	37.0%
% of households (of women of reproductive age and children under 5) in the target area practicing correct use of recommended household water treatment technologies	43.4% [49.1% with bottled water]
% of households (of women of reproductive age and children under 5) with soap and water at a hand washing station used by family members	63.3%
% of caregivers of children under 2 years disposing of infant stool appropriately	57.1%

ACKNOWLEDGEMENTS

The baseline survey design, analysis and reporting was led by Math Srales, Monitoring and Evaluation (M&E) Specialist of NOURISH/Save the Children with support from Lisa Sherburne, NOURISH/Save the Children Community Nutrition Advisor. Special words of appreciation go to the Royal University of Agriculture (RUA) contracted by Save the Children to conduct the baseline survey, led by Dr. Men Sarom, Director of Research for RUA.

The NOURISH baseline survey required the coordinated efforts of many people. The survey team extends its appreciation to all those who were involved in the survey including:

- Joy Del Rosso, Save the Children US Nutrition Advisor for technical guidance on the design and analysis.
- Larry Dershem, Save the Children US M&E Advisor for technical guidance and input into sampling, comments on questionnaire drafts, valuable comments on this report and steadfast support.
- Ly Samdy, NOURISH/Save the Children Database Assistant who supervised field data collection and supported data cleaning and entry.
- Jenni Lillingston, SNV M&E Advisor for supervising data analysis of WASH indicators.
- Khaim Sophornn, NOURISH/SNV WASH Advisor for training data collectors on WASH indicators.

We express great appreciation to RUA team leaders, interviewers, data entry and management team for actively participating in several weeks of training and survey revisions, facilitating evaluation discussions with local leaders, coordinating administrative and logistical aspects of the survey fieldwork and diligently entering and cleaning all of the data.

Our thanks are also extended to NOURISH finance staff and provincial teams for strong support to arrange for and support data collection, organize logistics and many other aspects of the survey.

We also thank Provincial Departments of Health and Provincial Departments of Rural Development, Operational Districts, Village Chiefs and Village Health Support Groups (VHSG) for supporting the survey planning and implementation.

Last but certainly not least, to the women who graciously gave of their time, knowledge, and energy by participating in the survey, we thank you. Without this participation and commitment to well-nourished children, the baseline survey would not have been possible.

Inna Sacci
NOURISH Chief of Party
Save the Children

ACRONYMS

ANC	Antenatal Care
BFCI	Baby Friendly Community Initiative
BMI	Body Mass Index
BSC	Business Service Center
CARD	Council for Agricultural and Rural Development
CCT	Conditional Cash Transfer
CCWC	Commune Committee for Women and Children
CDB	Commune Database
CDHS	Cambodia Demographic and Health Survey
CLTS	Community Led Total Sanitation
ECCD	Early Childhood Care and Development
FTF	Feed the Future
GMP	Growth Monitoring and Promotion
HEF	Health Equity Fund
IDA	Iron Deficiency Anemia
IE	Impact Evaluation
IYCF	Infant and Young Child Feeding
JMP	Joint Monitoring Programme for Water Supply and Sanitation
M&E	Monitoring and Evaluation
MAFF	Ministry of Agriculture, Forestry and Fisheries
MOH	Ministry of Health
MRD	Ministry of Rural Development
NECHR	National Ethics Committee for Health Research
NNP	National Nutrition Program
OD	Operational District
ODF	Open Defecation Free
PDA	Provincial Department of Agriculture
PDRD	Provincial Department of Rural Development
PHD	Provincial Health Department
RGC	Royal Government of Cambodia
RUA	Royal University of Agriculture
SAM	Severe Acute Malnutrition
SBCC	Social and Behavior Change Communication
SD	Standard Deviation
SME	Small and Medium Enterprises

UNICEF	United Nation's Children's Fund
USAID	United States Agency for International Development
VDC	Village Development Committee
VHSG	Village Health Support Group
VIP	Ventilated Improved Pit latrine
WASH	Water, Sanitation and Hygiene
WHO	World Health Organization
WRA	Women of Reproductive Age
ZOI	Zone of Influence

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INTRODUCTION

Nutrition Situation in Cambodia

Despite steady economic growth since the mid-1990s, and some positive trends, malnutrition remains high. Malnutrition has serious human development and economic consequences; Cambodia's Council for Agriculture and Rural Development (CARD) estimates that stunting costs approximately USD $120 million a year annually in lost gross domestic product.[2]

Women's Nutritional Status

The 2014 Cambodia Demographic and Health Survey (CDHS) found that 14% of women of reproductive age 15-49 years were underweight; young women 15-19 years of age have the highest underweight prevalence (28%).[3] Among those births for which the mother was able to report the baby's weight, 8% of children had a low birthweight under 2.5 kg. Approximately half of women were anemic; 45% of women of reproductive age 15-49 years and 53.2% of pregnant women had anemia.[4] The causes of anemia in Cambodia include genetic hemoglobin disorder and iron deficiency anemia (IDA).[5]

National Nutrition Situation at a Glance

- 14% of women are underweight
- 32.4% of children under 5 are stunted
- 24% of children are underweight and 10% of children are wasted
- 45% of women of reproductive age are anemic; 53% of pregnant women are anemic
- 55.5% of children are anemic

Source: CDHS 2014

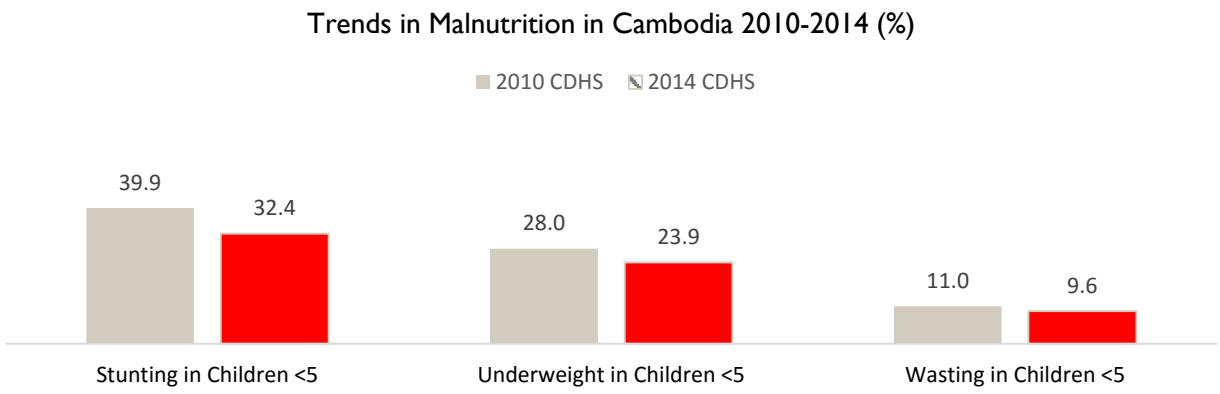


Figure 1 Trends in Child Malnutrition in Cambodia

Children's Nutritional Status

Nearly one in three (32.4%) children under the age of five is chronically malnourished, or stunted. Stunting is highest in rural areas (34.3%) and in children of families in the poorest quintile (42%). Although not as high as stunting, one in four children under five years are underweight and one in 10 children is wasted with low weight-for-height. Two percent of children under five years has severe acute malnutrition (SAM) or severely low weight-for-height.

Over half (56%) of children 6 to 59 months of age is anemic and 66% is iodine deficient.[6]

[2] Bagriansky J., et al. The economic consequences of malnutrition in Cambodia, more than 400 million US dollar lost annually. *Asia Pac J Clin Nutr* 2014;23(4):524-531

[3] National Institute of Statistics, Directorate General for Health, and ICF International, 2015. *Cambodia Demographic and Health Survey 2014.* Phnom Penh, Cambodia, and Rockville, Maryland, USA: National Institute of Statistics, Directorate General for Health, and ICF International.

[4] CDHS 2014

[5] Karakochuk C., et al. Genetic Hemoglobin Disorders Rather Than Iron Deficiency Are a Major Predictor of Hemoglobin Concentration in Women of Reproductive Age in Rural Prey Veng, Cambodia. *The Journal of Nutrition: Community and International Nutrition*. 2015.

[6] CDHS 2014

Summary of Factors that Drive Nutritional Status
Determinants of nutrition are multi-faceted. Immediate causes of undernutrition are inadequate dietary intake and disease. Underlying causes are multi-sectoral encompassing maternal and infant and young child feeding and care; health services; water, sanitation and hygiene environment and practices and sustainable household food security.[7]

Health and Nutrition: Health service utilization during pregnancy and childbirth have shown significant improvement since 2000. The 2014 CDHS found that 73.9% of rural women who had a live birth in the past five years had at least four antenatal care (ANC) visits; 77.5% of rural women start ANC in the first trimester. Through ANC services, nearly all women (96%) reported taking iron supplements and 76% reported completing the course of 90 or more tablets during pregnancy. Nearly all (95%) pregnant women were weighed and 72% received deworming as part of ANC. Most births (83%) were in a health facility. Child health service access and utilization have also improved. CDHS 2014 found that 73% of children age 12-23 months was fully immunized and 70% of children 6-59 months received Vitamin A supplements in the past six months.

Sixty-five percent of children under six months were exclusively breastfed overall; children in rural areas, poor households and with mothers with lower education were significantly more likely to be exclusively breastfed and to breastfeed longer. However, only 30% of children 6-23 months received a minimum acceptable diet, meaning that the child received the minimum feeding frequency and minimum dietary diversity, as appropriate for her or his age.[8] Rural children and the poorest children were two and four times less likely to receive the minimum acceptable diet, respectively. Secondary analysis of the Cambodia 2010 data show that children who ate animal source foods were less likely to be stunted.[9,10]

Water, Sanitation and Hygiene (WASH): CDHS 2014 (which sampled households with men and women of reproductive age and children under five) found that 67% of rural households used an appropriate method of water treatment, primarily boiling (55%) or filtering (17%). Nationally, 39.7% of rural households had an improved latrine, 9% used a shared latrine, 1% had an unimproved latrine and 50.4% openly defecate. Over two-thirds (70.6%) of households with children under five years dispose of children's feces hygienically.[11] Most rural households (77%) had a place for handwashing (although not a designated separate handwashing station) with water and soap.

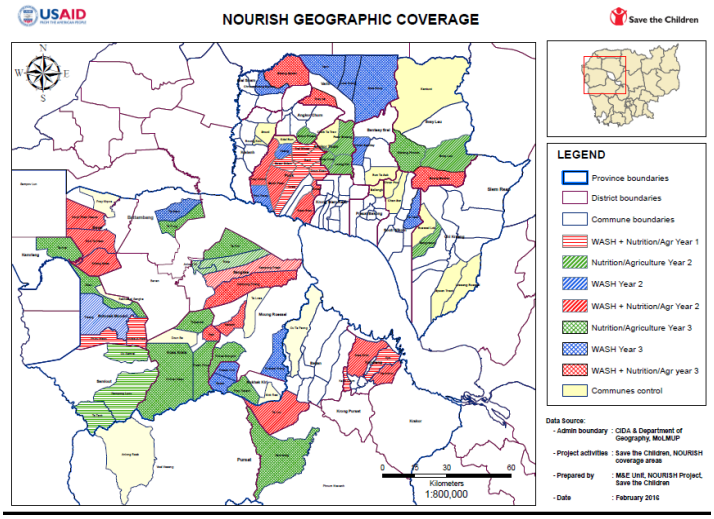
Agriculture: Despite improvements in household food access and food consumption, the poor quality of diet remains the main factor responsible for undernutrition in Cambodia.[12] The vast majority of dietary energy comes from cereals, particularly white rice. Food security constraints include low agricultural productivity and diversification, limited access to and unsustainable use of resources, landlessness, and insufficient employment and income opportunities, especially in rural areas. The risk of maternal underweight increased as the severity of food security increased. Efforts to improve household food security are recommended to improve women's nutritional status.[13]

Multi-sectoral approaches are needed to address malnutrition including interventions to improve water, sanitation, and hygiene; increase access to more diverse food for women and children; address suboptimal infant and young child feeding practices; and support social protection initiatives.[14]

[7] USAID Multi-Sectoral Nutrition Strategy 2014-2025. USAID. Washington, DC, 2014.
[8] CHDS 2014
[9] Ikeda, N. et al. Determinants of reduced child stunting in Cambodia: analysis of pooled data from three Demographic and Health Surveys. *Bulletin of the World Health Organization* 2013; 91:341-349.
[10] Consumption of animal source foods and dietary diversity reduce stunting in children in Cambodia. Darapheak et al. *International Archives of Medicine* 2013, 6:29
[11] CDHS 2014
[12] Cambodia - Food and Nutrition Security Profiles 2015. Association of Southeast Asian Nations, EU, FAO, UNICEF WFP, WHO.
[13] McDonald, CM et al. Household food insecurity and dietary diversity as correlates of maternal and child undernutrition in rural Cambodia. *European Journal of Clinical Nutrition* (2014), 1–5
[14] Chaparro, C.; Oot, L.; and Sethuraman, K. 2014. *Cambodia Nutrition Profile*. Washington, DC: FHI 360/FANTA.

Overview of the NOURISH Project

NOURISH, an integrated nutrition project funded by the United States Agency for International Development (USAID) and the US Presidential Initiative Feed the Future (FTF), aims to reduce the proportion of children in Cambodia who are stunted and to begin to break the intergenerational malnutrition cycle and halt productivity losses due to poorer cognition and reduced schooling. NOURISH works to accelerate stunting reduction by focusing directly on the causal factors of chronic malnutrition specific to Cambodia: lack of access to diverse and quality food, inadequate feeding and care practices and unsanitary environments. The project operates in three provinces, Battambang, Pursat, and Siem Reap, directly reaching 555 of the poorest rural villages and within those areas.



The NOURISH Project is implemented by Save the Children and partners: SNV and The Manoff Group with Operation la Enfant du Cambodge in Battambang, Partners in Compassion in Pursat and Wathnakpheap in Siem Reap over the course of five years from June 6, 2014 to June 5, 2019. In pursuit of its goal, NOURISH offers a comprehensive integrated approach through four complementary strategic objectives:

1. **Improve community delivery platforms** to support improved integrated nutrition
2. **Create demand** for health, WASH and agriculture practices, services, and products
3. Use the private sector to **expand supply** of health, WASH and agriculture products
4. **Enhance capacity** of sub-national government & civil society in integrated nutrition

NOURISH takes a multi-sectorial approach to improve nutrition, uniquely integrating health/nutrition, water, sanitation and hygiene (WASH) and agriculture:

Health/Nutrition	WASH	Agriculture
To strengthen care practices for pregnant and lactating women and children under the age of two, NOURISH works primarily at the community level to improve maternal and child diets and feeding practices with special emphasis on complementary feeding and appropriate care-seeking behaviors.	To improve access to safe drinking water, improved sanitation and hygiene, NOURISH works to achieve open defecation free (ODF) status through community-led total sanitation (CLTS). For safe drinking water at point-of-use and sustainable improved sanitation, NOURISH fosters improved access and promotion of water filters, latrines and	To improve access to diverse quality foods for women and children year-round, NOURISH links "first 1,000 days" families with agriculture resources including tested tools. NOURISH promotes micro-gardens and the consumption of small fish and nutritious value chain products supported by other USAID-funded projects. This work emphasizes decision-making to

Health/Nutrition	WASH	Agriculture
	handwashing devices by the private sector. Vouchers serve as incentives to expand sanitation demand to "first 1,000 days" poor families.	purchase of nutrient-dense foods and capacity strengthening of provincial agriculture partners to support poor women farmers.

Project activities are implemented in collaboration with Cambodia's Council on Agricultural and Rural Development (CARD) and three respective line ministries: Ministry of Health (MOH), Ministry of Rural Development (MRD) and Ministry of Agriculture, Fisheries, and Forestry (MAFF). Over the course of the project implementation, NOURISH engages with central government and sub-national counterparts to implement related policies and strategies:

- **National Strategy for Food Security and Nutrition (2014-2018):** The Strategy identifies priority actions over 4 dimensions of Food Security and Nutrition: availability; access; use and utilization of food; and stability of these dimensions through three strategies: improve access to food, community nutrition in the first 1,000 Days and multi-sectoral efforts, and social protection to reduce the vulnerability of food insecure households and their exposure to risks.

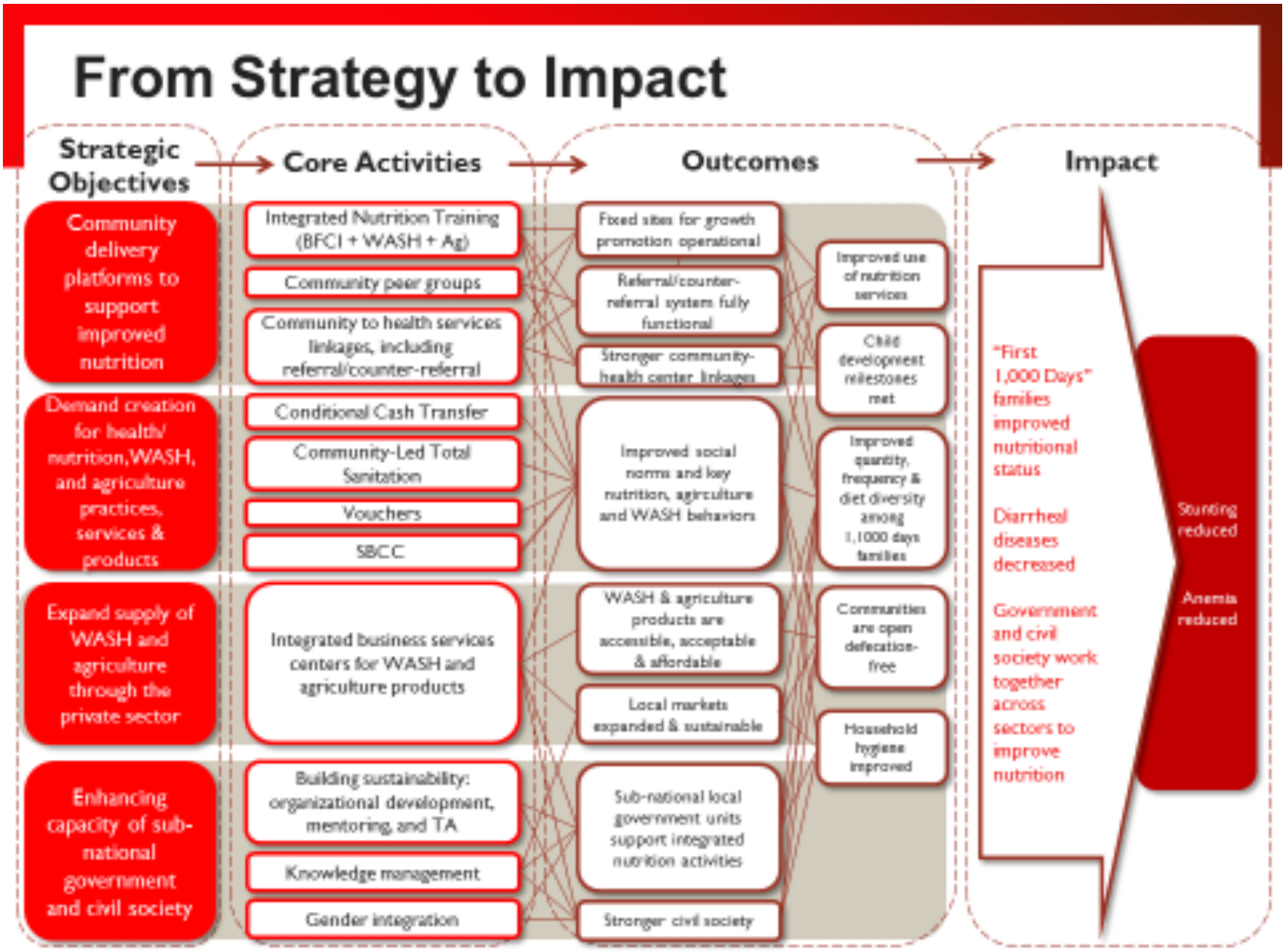
- **National Fast Track Road Map for Improving Nutrition (2014-2020):** This scales up a core package of nutrition-specific interventions for first 1,000 days with 5 core components on nutrition counseling in pregnancy, treatment of severe acute malnutrition, micronutrient supplementation and behavior change communication. Three components aim to create an enabling environment, including reducing financial barriers to services and multi-sectoral engagement in nutrition.

- **National Strategy for Rural Water Supply, Sanitation and Hygiene (2011-2025):** The Strategy has been translated into an Action Plan to achieve targets such as complete rural sanitation coverage by 2025 and improved hygiene behaviors by 2025.

- **Gender Mainstreaming Policy and Strategic Framework in Agriculture (2016-2020):** The Gender Mainstreaming framework guides women farmer's empowerment and capacity strengthening of the agriculture line ministry and extension workers to support women farmers to reach gender equity.

- **Policy and Strategic Framework on Childhood Development and Protection in the Agriculture Sector (2016-2020):** This policy aims to foster better conditions for childhood development and protection, to prevent child labour in the agriculture sector and to protect them from hazards like using agrochemicals.

Results Framework and Indicators



METHODOLOGY

The cross-sectional baseline survey aims to document starting levels of knowledge, behaviors and environmental factors to assess project performance through comparison with an endline survey.

Sampling

The NOURISH Project implementation area is inclusive of 555 of the poorest villages in three provinces: Battambang, Pursat and Siem Reap. Project communes have a poverty rate of 30% or higher according to Ministry of Planning 2013 data.

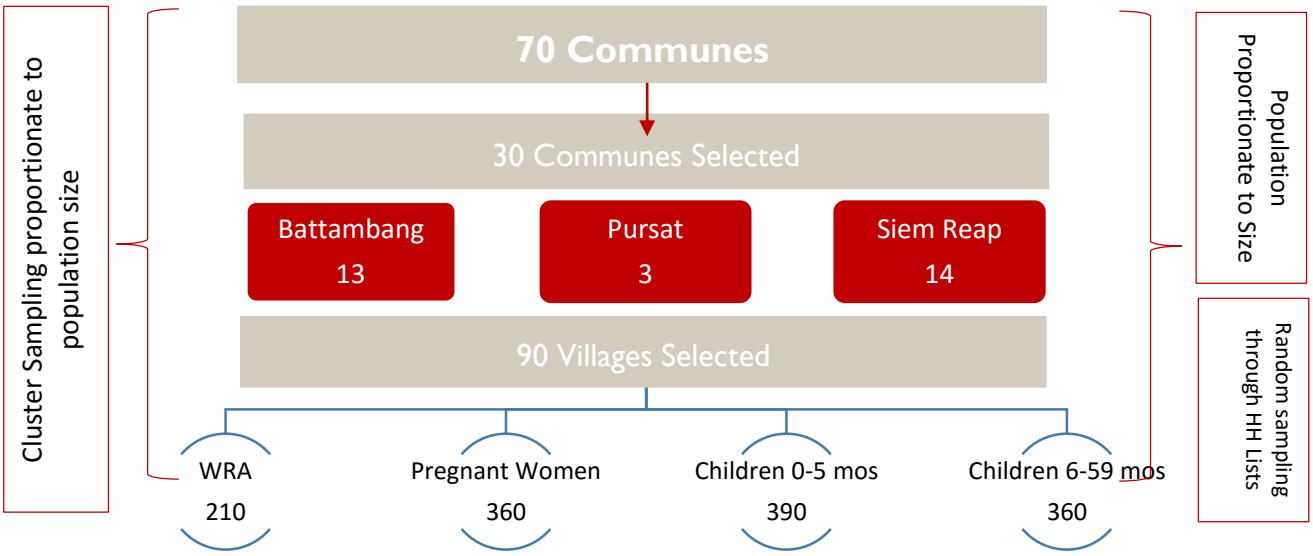
Table 1 Population of Sampled Respondents, by Province

Province	0-5 months	6-59 months	15-49 year old	Total	%
Battambang	1,722	6,064	52,295	60,081	44%
Pursat	396	1,331	10,059	11,786	9%
Siem Reap	1,966	6,075	57,766	65,807	48%
Total	**4,084**	**13,470**	**120,120**	**137,674**	**100%**

Sampling used a random, cluster sampling approach proportionate to population size. First, 30 communes were randomly selected from the three provinces, proportionate to population size. These 30 communes represent approximately half of the 58 communes remaining in the NOURISH Project implementation area, after excluding 12 communes part of year 1 implementation. Next, within the communes, 90 villages were randomly selected based on the population distribution.

Finally, within each village respondents were selected from household lists maintained by Village Chiefs. Respondents were women of reproductive age and the primary caregivers of children under five years. For women of reproductive age and caregivers of children under five years, respondents were randomly selected from the household lists. For pregnant women and caregivers of children under six months of age, all possible respondents in the village were interviewed in order to reach the sample required.

Sample Selection Process



Sample Size Calculation

The sample size calculation is based on a conventional approach of using a 95% level of confidence with a confidence interval of +/-5%*. The sample size calculation is computed based on the following formula:

$$N = \frac{z^2\, p(1-p)}{e^2}$$

z = 1.96 from the standard normal variate tables (±5% type I error, P<0.05)
*z = 2.33 from the standard normal variate tables (±2% type I error, P<0.02) for children 6-59 months
P = Expected proportion in population based on previous studies or pilot studies
e = Absolute error or precision

Table 2 Sample Size by Respondent Category

Respondent Category	Population Size (CDB 2013)	Data Source for Sample Calculation*	Sample Size
Women of reproductive age	345,000	15.9% underweight (CDHS 2010**)	210
Pregnant women	15,868	53.2% anemic (HARVEST Project IE baseline 2012)	360
Children under 6 months	11,537	65% exclusive breastfeeding (CDHS 2014 Preliminary Analysis)	360
Children 6-59 months	50,277	32.4% stunting (CDHS 2014 Preliminary Analysis)	390

*The indicators selected for sample calculation were based on two criteria: the highest level outcome indicator for the specific respondent category or in the case of children under 6 months, the most relevant indicator required to collect.
**Sample size calculation was done when the preliminary CDHS 2014 data were available but before the full CDHS 2014 report was released. The preliminary CDHS 2014 included stunting but not women's underweight.

Data Collection and Analysis

Baseline Survey: The survey was cross-sectional in nature in order to examine the prevalence of key indicators among the defined project target population at a single point in time and the relationship between these indicators and socio-demographic characteristics. The project will conduct an endline survey during the last year of the project in November 2018. This will similarly be cross-sectional survey to collect information on key indicators at a single point in time. Longitudinal or panel data will not be collected (over multiple periods of time with the same persons.)

NOURISH developed the data collection tools and questionnaires using validated questions in the Cambodia Demographic and Health Survey (CDHS) questionnaires and Feed the Future survey modules.[15] The questionnaires were translated from English to Khmer and back-translated to ensure comprehension and accuracy of translation. Prior to training the interviewers, selected surveyors and NOURISH staff pre-tested the questionnaire for language, understanding, skip patterns, as well as time, and then finalized tools for the field data collection. The questionnaires were prepared and tested from August-September 2015. Ethical clearance approval was received by the National Ethical Committee for Health Research in September 2015 and by the Save the Children Ethical Review Board in October 2015.

As a result of a competitive bidding process for the survey, NOURISH selected the Royal University of Agriculture (RUA) to conduct the survey. RUA selected two types of interviewers to collect the data: quantitative surveyors and health professionals. RUA interviewers collected data in November 2015. Data collectors worked in 10 teams; each team of six data collectors included one nurse in charge of anthropometric data and one supervisor.

Training of Interviewers: The NOURISH M&E Specialist and RUA trained interviewers during a four-day training on key principles of interviewing and practice in the field to identify households, select respondents and conduct interviews using the questionnaires. The NOURISH WASH Specialist introduced the sanitation and hygiene variables and definitions, taught the WASH section in the questionnaire, and provided guidance on how to collect data through observation. NOURISH M&E Specialist covered health topics and skills in anthropometry and anemia testing. Their training included classroom-based learning and field practice to ensure that weights and heights were measured, read and recorded correctly, following training detailed in the FANTA Guide.[16]

[15] Feed the Future M&E Guidance Series. Volume 8: Population-Based Survey Instrument for Feed the Future Zone of Influence Indicators with Revised WEAI Module, October 2012
[16] Cogill, Bruce. 2003. *Anthropometric Indicators Measurement Guide.* Washington, DC: Food and Nutrition Technical Assistance (FANTA) Project, FHI 360

Data Quality and Management: RUA hired and supervised data collectors. Each team of data collectors had one supervisor attached to the team throughout data collection. Additional supervision from RUA research experts in Phnom Penh provided spot checks. To ensure the quality of anthropometric data, scales were re-calibrated in each village prior to weighing. Weights and length measures were taken two times per child. Additionally, children were weighed with minimal clothing.

Each household was given a unique identifier code based on the Commune, Village, the type of respondent (W = women of reproductive age; C = caregiver; H = household head) and the number of the interview. The code was comprised of the first letter of the Province, first letter of the Commune, first letter of the Village, and the number of the interview. The data were analyzed in SPSS 23.0.

The NOURISH M&E Specialist and Database Assistant conducted spot checks on data cleaning, coding and entry. Data for a series of variables were re-entered to check data entry accuracy, and confirmed to be at least or over 95% accurate.

Children anthropometric data were analyzed in WHO's Anthro and then transferred to SPSS. Data analysis for the remaining data was done in SPSS. Data analysis required weighting of children's anthropometric data. Due to the need to sample a large number of caregivers of children under six months old to capture practices related to breastfeeding, coupled with constraints to sample as many children each of the other age groups, the sample resulted in "oversampling" of caregivers of younger age groups of children, a common survey challenge. Thus, in order for the sample to be representative of the population of children 0-59 months, the analysis required re-balancing or correction to reflect the older age groups by using a weighting procedure. Weighting of the data was done in SPSS.

Ethical Considerations

In keeping USAID's policy (22 CFR Part 225), NOURISH received approval to conduct research in compliance with US federal standards for human subject research with review. The baseline survey was approved by the Cambodia National Ethics Committee for Health Research (NECHR) on September 22, 2015 as well as the internal Save the Children Ethics Review Committee (ERC).

Participation in the survey was voluntary. Prior to participation, potential respondents were informed that they had no obligation to participate and would face no penalty or consequence if they chose not to. If they agreed, respondents were informed that they were free to withdraw at any time, again with no penalty or consequence. For all minors under the age of 18 years, the primary caregiver was asked for consent. Confidentiality was ensured during all stages. No names or other identifying characteristics of women, individual caregivers and children were written on the forms which are being kept in a locked cabinet and will be destroyed after one year. Finally, findings are reported by the total sample rather than by any unit such as village or commune which further protects confidentiality.

Limitations

Potential limitations of the survey include response bias and recall bias. There are many reasons why people may provide less-than-truthful responses to questions, i.e., socially desirable answers and recall bias. The survey attempted to reduce this potential bias by providing respondents with clear information about why they were interviewed and ensuring them that their responses would have no bearing on their participation or lack of participation in in the project or other services, and that they would never be identified individually or by name in any reports. In addition, to confirm answers on self-reported behaviors, interviewers observed the environment when possible (relevant for WASH and agriculture topics).

Another limitation to the analysis and interpretation is the sample size which was calculated to be representative of all three provinces combined. Therefore, the sample is not intended to disaggregate and compare data by provinces. Although these data are shown in Annex II, apparent differences cannot be taken as statistically significant.

Additionally, the sample of this survey was women of reproductive age and children under five in the NOURISH project area – not for the entire community. However, WASH interventions are designed to reach all households for maximum health impact; reaching only "first 1,000 day" households will not provide the impact from WASH interventions as anticipated from reaching all households. National reporting and project monitoring systems are designed at whole of community level. Therefore, this survey can be used for NOURISH Project comparison at baseline and endline, and compared to CDHS, but cannot fully be compared to national WASH data.

Finally, collecting accurate weights and length measures of children under six months was a challenge. The data collectors faced difficulty when infants were crying/not as still as the older children. Many of these data had to be discarded due to the wide variation between first and second measures, especially among the youngest. After cleaning the data, 8.6% (66) children's heights, and 6.9% (53) of children's weights could not be used and were discarded from the sample. The number remaining data were sufficient for the analysis.

Additional information on the baseline survey protocol is found in Annex I.

FINDINGS

Socio-Demographic Characteristic

This section provides information on the survey sample sizes and on the general characteristics of the households surveyed at NOURISH baseline. The survey spanned 90 villages across the NOURISH Project target areas in three provinces: Battambang, Pursat and Siem Reap. Highlights of the findings are shown in this section; data not shown, and detailed data tables are included in Annex II.

The survey sampled 1,347 women: 56.8% were primary caregivers[17] of children under 59 months (n=766), 26.6% of pregnant women (n=358) and 16.6% of women of reproductive age (n=223). The distribution by province was proportionate to population size: 43.3% in Battambang (n=583), 46.9% in Siem Reap (n=632) and 9.8% in Pursat (n=132) [Figure 2].

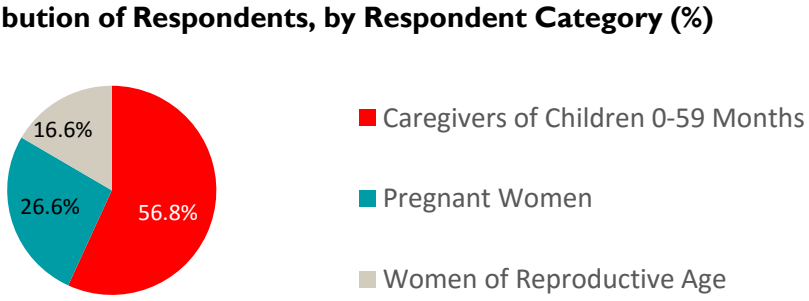


Figure 2 Distribution of Sampled Respondents, by Respondent Category

The ages of respondents ranged from 15 years to 68 years with a mean age of 27.7 years. Nearly all women had ever been married (93% overall and 98.6% of pregnant women and caregivers) and 96% of ever-married women were married at the time of the survey. Eighty-five percent of women had ever attended school; of these 58% reported that their highest level of education was primary school, 27.7% went to secondary school, and 12.2% attended high school or university. When asked about a primary occupation, women reported the following occupations: 42.8% are farmers, 26.9% stay at home with children and 22.4% engage in daily labor [Figure 3]. Occupations by type of respondent were similar between caregivers and women of

[17] The survey interviewed the child's primary caregiver whether the caregiver is the mother or not. Throughout the report, the designation of the caregiver is used as mother when questions were asked only for the mother (ie. related to maternal health and breastfeeding) and parent/caregiver when encompassing all types of primary caregivers.

reproductive age, while pregnant women were less likely to engage in daily labor and more likely to stay at home (42.7%).

Currently married caregivers reported their husband's ages which ranged from 20-70 years with a mean age of 33 years. Currently married women reported their husband's highest level of education: 51.4% said their husbands completed primary school, 29.1% said that their husband attended secondary school, and 15% reported that their husband went to high school or university. Sixty-one percent of currently married women husbands' are farmers [Figure 3]. Eighteen percent said that their husband worked outside of the village, approximately half in Thailand (54.5%). The proportion of husbands who work outside the village was higher in Battambang (27%) than the other provinces (12%), possibly due to cassava plantations which hire farm laborers for several months at a time throughout the year.

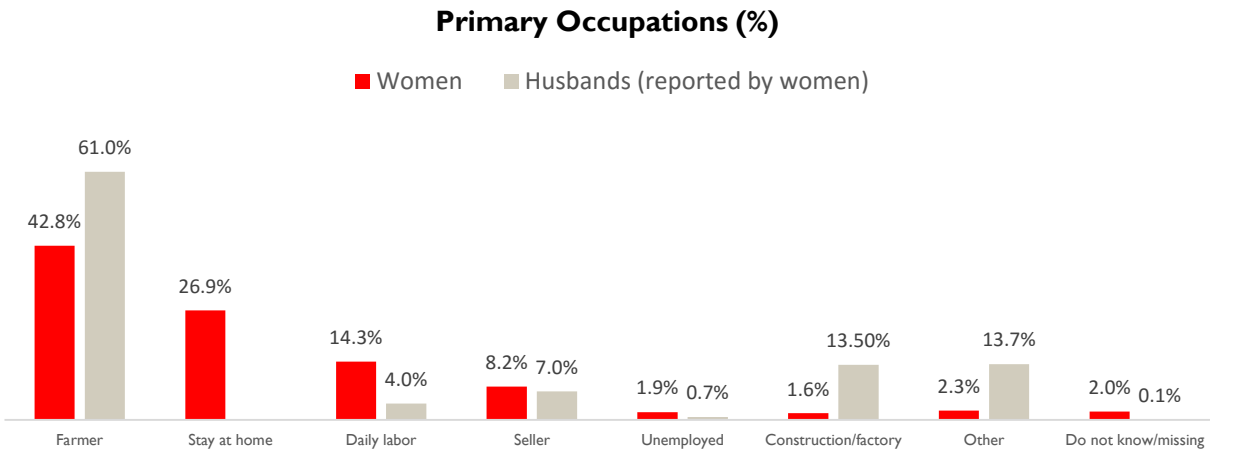


Figure 3 Primary Occupations

Sixty-eight percent of women reported that their family owns agricultural land. Of these, the average size owned is 1.72 hectares; most had one hectare or less (44%) or two to three hectares (37%), while 14% said that they have four or more hectares.

Approximately 30% of women were poor: 21.7% had a current Identification (ID) Poor Card issued by the Ministry of Planning, 7% said their household holds an ID Poor Card but did not have it on hand, and 2% had an expired Card (the renewal cycle was in progress at the time of the survey). By type of respondent, 32.5% of caregivers, 30.9% of women of reproductive age and 27.2% of pregnant women were poor.

Six percent of caregivers had a bank account, and 43.5% of these women were ID Poor. Thus overall 3% of poor women caregivers had their own bank account.

Among women of reproductive age, 56.1% had at least one child; of these women the range of children is one to nine children and the mean number is 2.4 children. The remainder of this section presents findings from the 766 caregivers with children. The number of children in their care was between one and seven children, with a mean number of 1.4 children. Among caregivers, 62.8% cared for one child, 32.2% cared for two children and 5% cared for three or more children.

Given the presence of migration in the project area, the survey asked about the relationship of the caregiver to the child. Overall, 88.1% of caregivers in the sample were mothers while 11.9% was the grandmother or aunt of the child. The proportion of mother caregivers declined as the child's age increased; 93% of caregivers of children under six months was the mother versus 83% of caregivers of children 6-59 months.

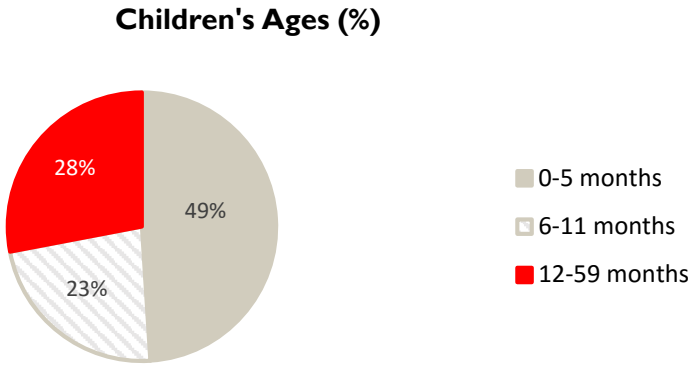


Figure 4 Distribution of Children's Ages

The distribution of ages of children of the caregivers interviewed follows: 49% children were under six months (n=371), 23% children were 6-11 months (n=177) and 28% children were 12-59 months (n=218) [Figure 4].

Girls comprised 48% of the sample (n=360) and boys made up 52% (n=389).

Caregivers of 59.8% of children had the child's birth certificate and could show it to the interviewer.

Health and Nutrition

This section provides information on maternal health care-seeking and other maternal practices including dietary intake collected at NOURISH baseline. All women's anemia status was assessed and non-pregnant women of reproductive age 15-49 years were weighed and measured. The section also covers child care practices, including exclusive breastfeeding during the first six months of life, continued breastfeeding until age two, complementary foods and diet diversity for children under 24 months, as well as parenting attitudes and practices. The anemia status of children 6-59 months was assessed and the height and weight of all children under 59 months were measured. Highlights of the findings are shown in this section; data not shown and detailed data tables are included in Annex II.

Maternal Health and Nutrition

Among caregivers, those who are mothers were asked about maternal care-seeking behaviors for their most recent pregnancy: 96.2% of all women and 97.3% of poor women reported receiving antenatal care (ANC) at a health facility: 82.7% at a Health Center, 10.7% at a provincial hospital, 2.0% at a private health facility, 0.6% at health post and 0.3% at a national hospital. The remaining 3.8% did not go to a health facility for ANC or did not answer this question [Figure 5].

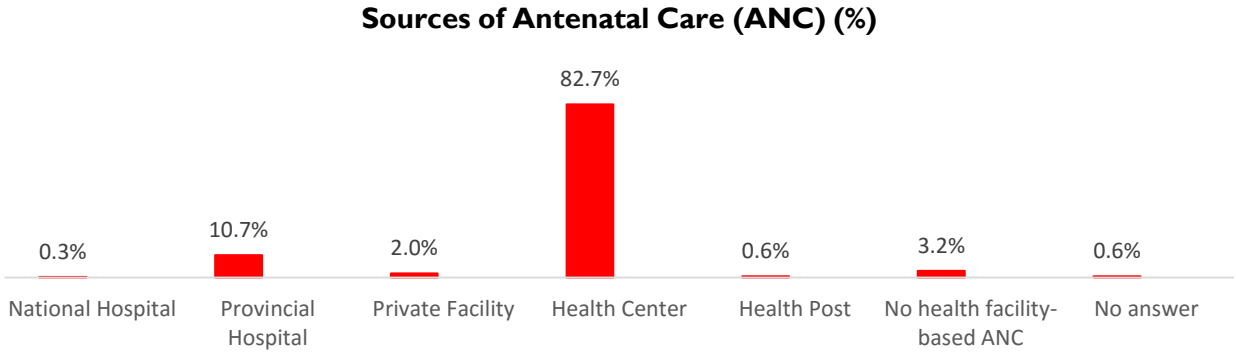


Figure 5 Sources of ANC

Regarding timing of the first ANC visit, 76.9% of women reported seeking ANC in the first trimester, while 16.2% started ANC in the second trimester and 4.1% did not seek care until the third trimester. When asked about the number of ANC visits made during pregnancy, 84.5% of women reported at least four ANC visits [Figure 6], compared to 73.9% of rural women in CDHS 2014. There were no statistical differences between poor and non-poor women ANC utilization in this survey.

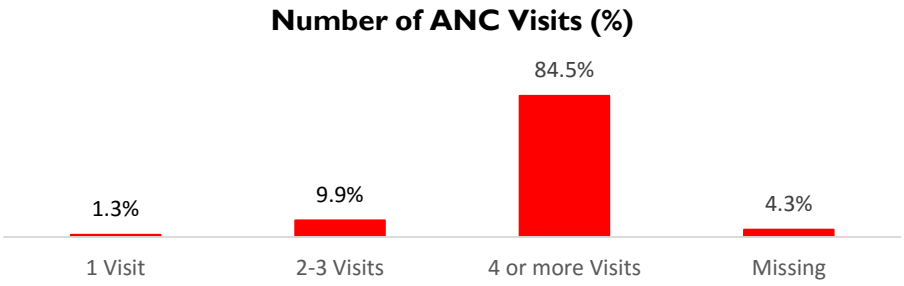


Figure 6 Number of ANC Visits

Among women who received ANC, 97.3% reported taking iron tablets, 98.0% were weighed and 76.9% had their height measured. Nearly all (95.6%) women had their blood pressure taken and 89.5% had a blood sample taken. 82.9% said that the health workers gave them advice on diet in pregnancy, while only half (55.1%) reported receiving advice on weight gain during pregnancy [Figure 7].

Of the 97.3% of women who reported taking iron supplements during ANC, 71.2% said that they took tablets for 90 days or more, the national policy recommendation. One quarter (24.5%) reported taking tablets for over 30 days but less than 90 days and 4.2% said that they took tablets under 30 days. Of the total sample at NOURISH baseline, 66.7% reported taking 90 days or more of iron supplements.

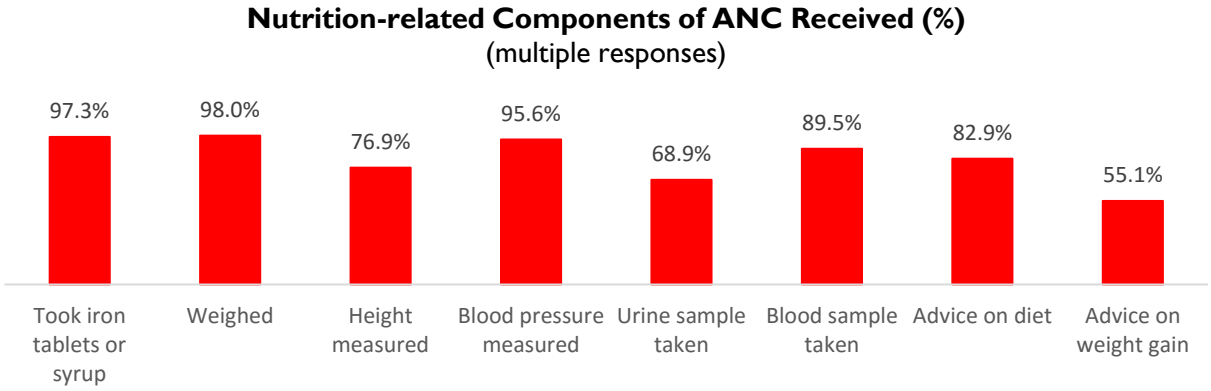


Figure 7 Nutrition-related Components of ANC Received

Ninety-five percent of the mothers reported childbirth at a health facility at NOURISH baseline, compared to 81% of rural women in CDHS 2014. Of these women, a majority (71.3%) delivered at a Health Center, 20% delivered at a public hospital and 3.8% gave birth at a private health facility.

Following global guidelines, the Cambodia Ministry of Health recommendations for weight gain are based on a woman's preconception weight; a woman who has a normal weight or body mass index (BMI) before pregnancy is recommended to gain 11.5-16kg during pregnancy. An underweight woman before pregnancy should gain 12.5-18kg during pregnancy.[18] Mothers recalled advice they had received regarding weight gain during their most recent pregnancy. Although 55.1% received advice during ANC, only 5.1% of mothers recalled advice that could have been accurate. Another 24.7% said health workers told them to gain less than 10kg, 46% did not get any advice and 24% did not recall.

[18] National Fast Track Road Map for Improving Nutrition 2014-2020. Cambodia National Nutrition Program, National Maternal and Child Health Center, Ministry of Health.

Women were also asked to recall actual weight gain during their last pregnancy, regardless of their pre-pregnancy weight and/or advise received from a health worker: 63.9% reported gaining less than 10kg during their last pregnancy – lower than recommended by the Ministry of Health, 22.7% gained over 10kg (18.1% said that they gained 10-12 kg and 4.6% gained over 12kg) and 13% did not know [Figure 8].

Reported Weight Gain in Last Pregnancy (%)

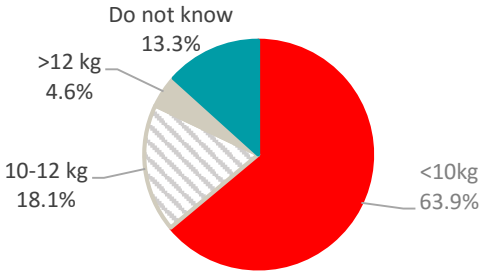


Figure 8 Weight Gain in Last Pregnancy

Mothers recalled the size of their infant at birth: 47.7% reported the baby was 'average', 35.5% said the baby was 'larger than average' and 5.1% said the baby was 'very large'. Eleven percent assessed the baby to be small (9.8% said 'smaller than average' and 1.3% said 'very small'), compared to CDHS 2014 where rural mothers reported 12.1% of babies small (9.2% 'smaller than average' and 2.9% 'very small'). When asked to show the records to the interviewers, only slightly more than half of the respondents (58%) had their child birth weight recorded on the Child Health Card with 5.1% listed as underweight (under 2.5kg at birth), compared to CHDS 2014 data of 8.4% in rural areas. Regarding postnatal care after childbirth, 82.7% of mothers reported care in the first two days at baseline, compared to 89.1% of rural mothers in CDHS 2014.

The survey assessed the nutritional status of women of reproductive age who were not knowingly pregnant at the time of the baseline survey. Adequate energy in the diet is necessary to support the continuing growth of adolescent girls and women's ability to provide optimal care for their children and participate fully in income generation activities.[19] (This is calculated using Body Mass Index (BMI), defined as the weight of non-pregnant women of reproductive age (15-49 years) in kilograms divided by the square of the height in meters (kg/m^2). A BMI 18.5 or lower signifies acute undernutrition while a BMI over 25 reflects overweight. At NOURISH baseline, 14.8% of women of reproductive age were underweight [Table 3] based on the weight measurements taken at the time of the survey, compared to 14.1% in CDHS 2014. Poor women were no more likely to be underweight.

Table 3 BMI, Women of Reproductive Age (n=223)

BMI	**N**	**%**	CDHS 2014 (Rural)
Underweight (<18.5)	**33**	**14.8%**	**14.1%**
Moderately and severely thin (<17)	*7*	*3.1%*	*4.1%*
Mildly thin (17-18.4)	*26*	*11.7%*	*10.0%*
Normal weight (18.5 -24.9)	148	66.4%	68.9%
Overweight (>25)	36	16.1%	17.0%

Anemia is measured by hemoglobin concentration in the blood. To assess anemia in women of reproductive age the NOURISH survey used the HemoCue system, the same method used by CDHS, operated by trained health workers. Anemia is detected when an individual has a level of hemoglobin below a defined cut-off. Non-pregnant women of reproductive age with a hemoglobin concentration less than 12g/dl and pregnant women with a hemoglobin concentration less than 11g/dl are classified as anemic. The survey found anemia in 41.5% of women of reproductive age who are not pregnant and not lactating [Table 4] at NOURISH

[19] FTF Indicators Handbook and Definition Sheets, 2014.

baseline, compared to 43.8% in CDHS 2014. Among pregnant women, NOURISH baseline survey found anemia in 52.4% [Table 5]; CDHS 2014 found similar (53.2%) prevalence of anemia in pregnant women, however prevalence of severe anemia was much higher. Given the potential negative impact of severe anemia on pregnancy outcome, interviewers were instructed to advise pregnant women seek medical advice in the cases of severe anemia recorded during data collection efforts.

Table 4 Prevalence of Anemia, Non-Pregnant Women of Reproductive Age (n=217)

Women of Reproductive Age (not pregnant)	N	%	CDHS 2014
Any anemia (<12 g/dl)	**90**	**41.5%**	**43.8%**
<7 g/dl severe anemia	*9*	*4.1%*	*0.3%*
7-9.9g/dl moderate anemia	*19*	*8.8%*	*5.6%*
10-11.9 g/dl mild anemia	*62*	*28.6%*	*37.2%*

Table 5 Prevalence of Anemia, Pregnant Women (n=185)

Pregnant Women	N	%	CDHS 2014
Any anemia (<11 g/dl)	**97**	**52.4%**	**53.2%**
<9 g/dl severe anemia	*23*	*12.4%*	*0.4%*
9.0-9.9g/dl moderate anemia	*20*	*10.8%*	*22.4%*
10-10.9 g/dl mild anemia	*54*	*29.2%*	*30.4%*

The quality of women's diets is indicated by women's dietary diversity. Dietary diversity is calculated as the mean number of food groups consumed in the previous day by women of reproductive age (15-49 years) using the following nine food groups (Feed the Future Indicator Handbook 2014):

(1) Grains, roots and tubers;
(2) Legumes and nuts;
(3) Dairy products (milk, yogurt, cheese);
(4) Organ meat;
(5) Eggs;
(6) Flesh foods and other misc. small animal protein;
(7) Vitamin A dark green leafy vegetables;
(8) Other Vitamin A rich vegetables and fruits; and
(9) Other fruits and vegetables.

Overall women interviewed (n=581) reported consuming an average total of 4.67 types of foods on the day or night before the interview compared to a score of 4.6 in 2012.[20] When analyzed by non-pregnant women of reproductive age and pregnant women, the scores are 4.79 and 4.59, respectively [Figure 9]. The types of food groups consumed are shown in Figure 10. Quantity and frequency was not collected as NOURISH implemented standardized food recall instruments with a focus on dietary diversity.

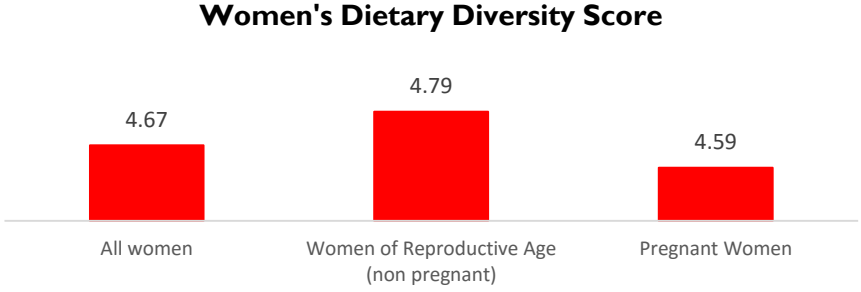


Figure 9 Women's Dietary Diversity

[20] Feed the Future Zone of Influence Baseline Report (2012). Michigan State University for Feed the Future Cambodia.

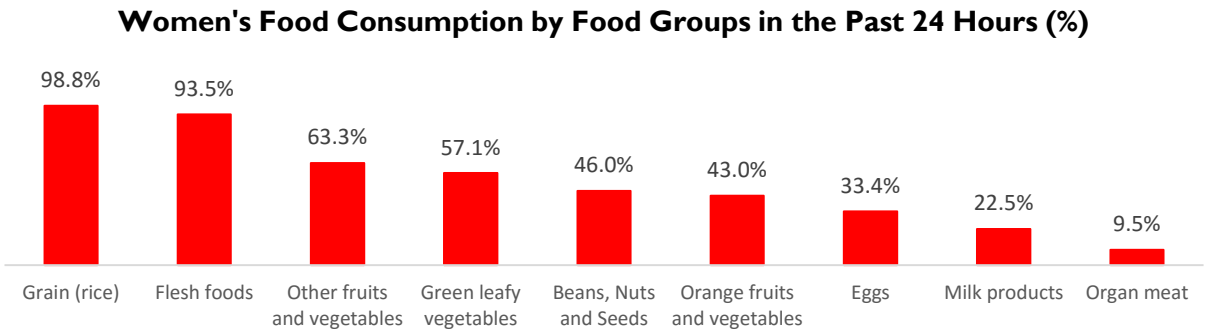


Figure 10 Women's Food Consumption by Food Groups in the Past 24 Hours

Table 6 Summary of Findings: NOURISH Maternal Health and Nutrition Indicators

Indicators	Women of Reproductive Age	Pregnant Women
Prevalence of anemia among women	41.5%	52.4%
Prevalence of underweight women	14.8%	--
Women's Dietary Diversity: Mean number of food groups consumed in past 24 hours	4.79	4.59

Child Health and Nutrition

Stunting (low height-for-age) is a result of chronic malnutrition. Stunting is difficult to reverse after age two, and linear growth deficits in the "first 1,000 days" have severe short- and long-term health and functional consequences, including poor cognition and educational performance, low adult wages and lost productivity.[21] Stunted girls grow up to have higher risk of childbirth complications. Stunting prevalence is one of core NOURISH indicators collected at baseline for the comparison at endline as a means to demonstrate project impact.

This indicator measures the percent of children 0-59 months who are stunted, as defined by a height for age Z score of <-2 SD. Children with a height for age Z score <-2 and >= -3 are classified as moderately stunted. Children with a height for age Z score <-3 are classified as severely stunted. The numerator for this indicator is the total number of children 0-59 months surveyed with a height for age Z score <-2 SD. The denominator is the total number of children 0-59 months surveyed with height-for-age Z score data. The prevalence of stunting, reflecting chronic malnutrition, in all children under the age of five surveyed at NOURISH baseline was 34.3%.[22] With further analysis, similar to national data, stunting sharply increases with age after 11 months, at the time when complementary feeding is needed to provide nutrients in addition to breastmilk and children become mobile: 14.5% of children 9-11 months was stunted compared to 29.0% of children 12-17 months and 34.6% of children 18-23 months. [Figure 11].

[21] 2016 WHO; Childhood Stunting: a Global Perspective. Maternal and Child Nutrition (2016). 12, pp 12-26.
[22] Data analysis required weighting of children's anthropometric data; results are 'weighted' to re-balance to reflect the prevalence in the population of children up to 59 months, in order to correct for oversampling of children under six months (required to collect data on exclusive breastfeeding) and under-sampling of children 48-59 months.

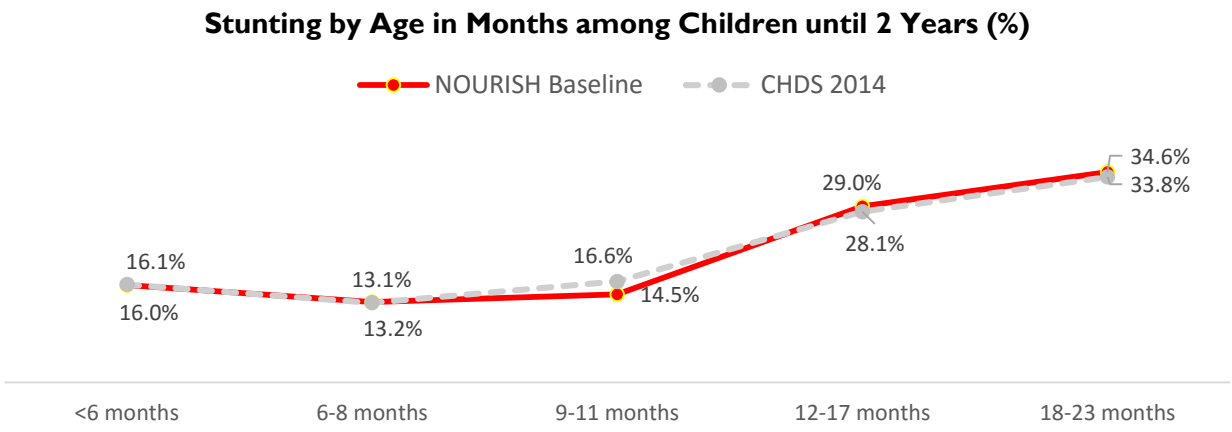


Figure 11 Stunting by Age in Months, Children 0-23 Months

Underweight is a weight-for-age measurement that is a reflection of acute malnutrition. This indicator measures the percent of children 0-59 months who are acutely underweight, as defined by a weight-for-age Z-score <-2 SD. The numerator for the indicator is the total number of children 0-59 months in the sample with a weight-for-age Z-score <-2. The denominator is the total number of children 0-59 months in the sample with weight-for-age Z-score data. The prevalence of underweight (weighted data), reflecting acute malnutrition in children, was 16.9% at NOURISH baseline, lower than CDHS 2014 rural findings of 25.4%.

Wasting is a weight-for-height measurement that is a reflection of acute malnutrition. This indicator measures the percent of children 0-59 months who are acutely underweight, as defined by a weight-for-height Z score <-2 SD. The numerator is the total number of children 0-59 months in the sample with a weight-for-height Z-score <-2. The denominator is the number of children 0-59 months in the sample with weight-for-height Z-score data. The prevalence of wasting in children 0-59 months at NOURISH baseline (weighted data) was 8.4%, lower than CDHS 2014 findings of 9.9% wasting in rural Cambodia. The proportion of children found to have severely low weight-for-height (weight-for-height Z-score -3 SD), or severe acute malnutrition (SAM), was 1.7% compared to 2.4% in CDHS 2014 data for rural children.

Anemia is measured by hemoglobin concentration in the blood. To assess anemia in children 6-59 months the NOURISH survey used the HemoCue system, the same method used by CDHS. Anemia is detected when an individual has a level of hemoglobin below a defined cut-off. Children with a hemoglobin concentration less than 11g/dl are classified as anemic. The survey identified 59.4% anemia in children 6-59 months [Table 7] compared to 57.4% in CDHS 2014. The difference between girls and boys anemia is not significant.

Table 7 Prevalence of Anemia, Children 6-59 Months

	N	%	CDHS 2014
Anemia (<11 g/dl)	**170**	**59.4%**	**57.4%**
Girls	*86*	*64.2%*	*54.2%*
Boys	*84*	*55.6%*	*56.7%*

Thirty-two percent of caregivers interviewed at baseline reported taking the child to the health facility within the month of the survey or the previous month, while 34% percent reported visiting a health facility in the past two to three months. Another 23.1% reported that the child last visited a health facility within the past four months (13.3% went in the last four to six months and 9.8% went over six months ago) [Figure 12].

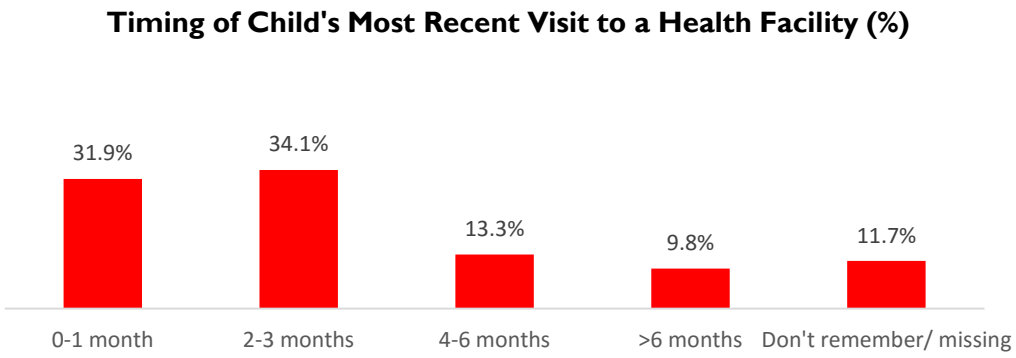


Figure 12 Timing of Child's Most Recent Visit to a Health Facility, Children 0-23 Months

Among children 6-23 months who visited a health facility (n=720), 86% of caregivers reported that the child was vaccinated during the last visit. Nearly equal proportions of caregivers said that the child was weighed (46.3%), received medicine (46.2%) and intravenous (IV) fluids (43.2%). Additionally 21.4% recalled that they received counseling [Figure 13]. There was no difference in services received by timing of the most recent visit to a health facility.

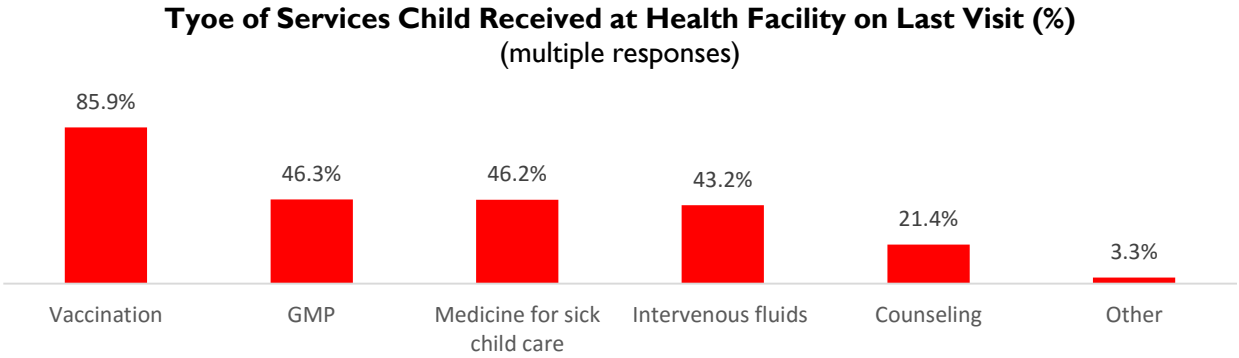


Figure 13 Services Child Received at Health Facility on Last Visit, Children 0-23 Months

Monthly growth monitoring and promotion (GMP) during first 23 months is a key behavior promoted by the NOURISH Project due to the importance of tracking growth to take corrective actions in growth faltering before malnutrition is set. Of the 46.3% of children who were weighed in their most recent health facility visit, 33% were weighed in the past month, 37% of children were weighed within two to three months, and 24% were weighed four or more months prior to the survey.

Table 8 Summary of Findings: NOURISH Child Health and Nutrition Indicators

Indicators	Girls	Boys	Total
Prevalence of anemia among children 6-59 months	64.2%	55.6%	**59.4%**
Prevalence of stunted children under 5 years of age	28.0%	39.4%*	**34.3%**
Prevalence of underweight children under 5 years of age	12.1%	21.0%**	**16.9%**
Prevalence of wasted children under 5 years of age	8.4%	8.5%	**8.5%**

*p=<0.001
**p=<0.05

Infant and Young Child Feeding

Infants Birth to Five Months

Ninety-four percent of children surveyed at NOURISH baseline had ever been breastfed. Exclusive breastfeeding for six months is the optimal way of feeding infants. Exclusive breastfeeding means that the infant only receives breast milk without any additional food or drink, not even water. Among children under six months, 77.8% were exclusively breastfed.

Among children who were not exclusively breastfed, some were given prelacteal feeds (12.5%) in the first days after birth, or continue to get other liquids: water (9.5%), formula (9.2%) or milk (7.7%).

Continued breastfeeding is recommended by WHO and the Ministry of Health until 2 years of age and beyond. At NOURISH baseline, continued breastfeeding declined with age on average from 77% among children 6-8 months to 56% among children 12-23 months. Continued breastfeeding at two years is 32.5%, using the WHO 2010 definition of continued breastfeeding at two years [Table 8].

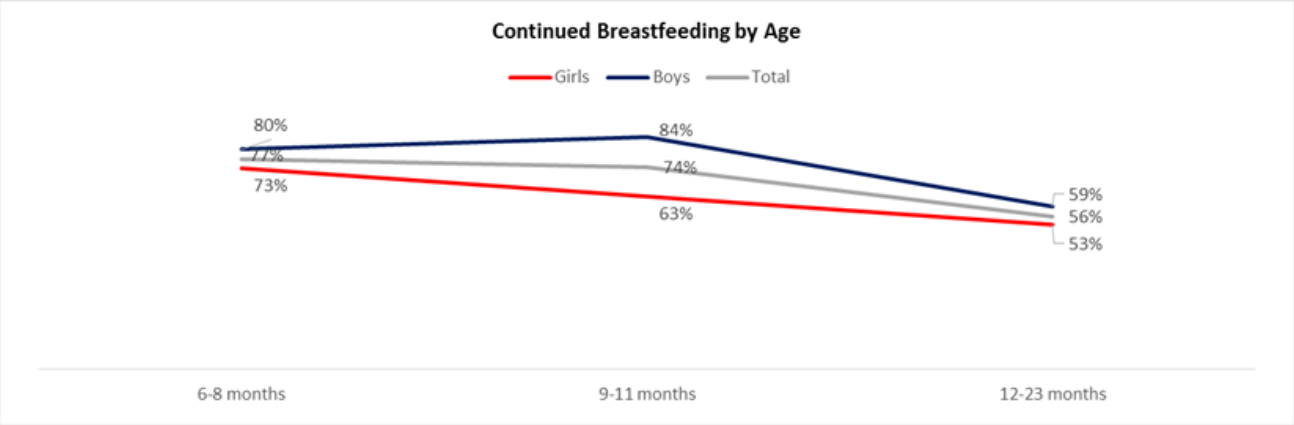


Figure 14 Continued Breastfeeding by Age in Months

Table 9 Breastfeeding Practices

Variable	Girls		Boys		Total		CDHS 2014
	N	%	N	%	N	%	
Ever breastfed	354	93.7%	368	94.8%	722	94.3%	96%
Exclusively breastfed until 6 months	142	78.5%	156	77.2%	298	77.8%	65%
Continued breastfeeding at two years	15	40.5%	9	24.3%	24	32.5%	--

Among children under six months of age breastfeeding, the average number of breastfeeding sessions per day ranged from 1 to 35 with a mean of 10.5 times per day. In the past 24 hours, 34.4% reported feeding 11 or more times, 45.5% fed five to 10 times and 20.1% fed less than five times. The average length of a breastfeeding session ranged from under one minute to one hour with a mean of 12.9 minutes. Some children (16.6%) consume breastmilk in other ways than breastfeeding.

Children during and after illness require additional nutrients to limit growth loss and prevent growth faltering. At baseline, 62.4% of caregivers under six months said the child had ever experienced diarrhea. During the last episode of diarrhea, 24.3% of children got more to drink. In the week after the last episode, 21.7% of children got more to drink. Forty-three percent of children got the same amount of liquid as usual. Ten percent of children stopped liquids during diarrhea and 14.5% stopped in the week after illness.

At baseline, 68.4% of caregivers under six months said the child had ever experienced fever. During the last episode of fever, 19.5% of caregivers gave the child more to drink and in the week after fever 22.5% of caregivers gave the child more to drink (21.4% gave more and 1.1% gave much more), while 44.8% and 48.5% gave children the same amount of liquid as usual during and after illness, respectively. Nine percent and 17.6% did not drink liquid during and after fever, respectively.

Children Six to 59 Months

The globally standardized minimum acceptable diet indicator assesses the percentage of children 6-23 months who consumed the minimum dietary diversity and the minimum meal frequency during the previous day. Specifically, a child with a minimum acceptable diet is given all of the following:

[I] Breast milk or two or more feedings of formula; fresh, tinned, or powdered animal milk; or yogurt; and

[II] Foods from four or more of the following groups:

(1) Infant formula, milk other than breast milk, cheese or yogurt, or other milk products;
(2) Foods made from grains, roots, and tubers, including porridge and fortified baby food from grains;
(3) Vitamin A-rich fruits and vegetables (and red palm oil);
(4) Other fruits and vegetables;
(5) Eggs;
(6) Meat, poultry, fish, and shellfish (and organ meats); and
(7) Legumes and nuts.

[III] The minimum number of recommended meals per day, according to age and breastfeeding status.

For breastfed children, the minimum meal frequency is solid or semi-solid food at least twice a day for infants 6-8 months and at least three times a day for children 9-23 months. A non-breastfed 6-8 month old child should eat soft or semi-solid food 3 times a day and a non-breastfed 9-23 month old child should eat semi-solid food four times a day. NOURISH utilized the validated Feed the Future food recall to collect data. Each component of this indicator is presented below, concluding with the composite indicator results.

[I] Breastmilk or other milk: Sixty-four percent of children 6-23 months continued to breastfeed; the prevalence of breastfeeding appeared to decrease by age: 76.7% of 6-8 month olds, 73.6% of 9-11 month olds, and 55.8% of 12-23 month old children continued to breastfeed at least twice a day.

[II] Number of Food Groups: The number of food groups consumed by children in the last day and night ranged from 0 to 7 with a mean of four groups; 68.0% of children consumed four or more food groups in the previous 24 hours. The proportion of children who ate four or more food groups increased with age: 47.0% of 6-8 month olds, 67.0% of 9-11 month olds, and 76.0% of 12-23 month old children consumed four or more food groups in the previous day [Figure 15].

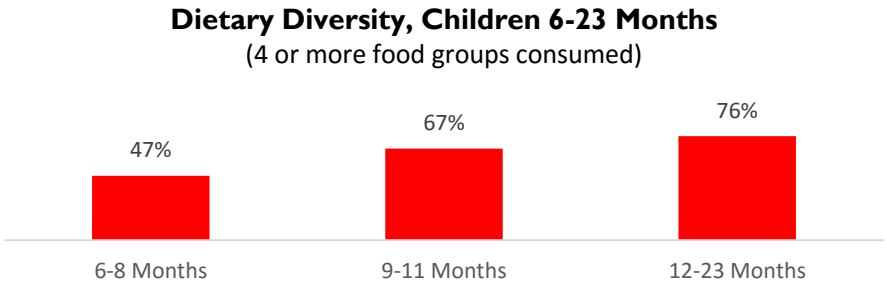


Figure 14 Dietary Diversity, Children 6-23 Months

The most commonly reported foods given to children were grains (91.9%), foods from animal origin (74.4%), and fruits and vegetables (62.4%). Fewer children ate orange Vitamin A-rich fruits and vegetables (37.6%), eggs (33.4%) and beans or nuts (29.9%) and milk products including milk products [Figure 16].

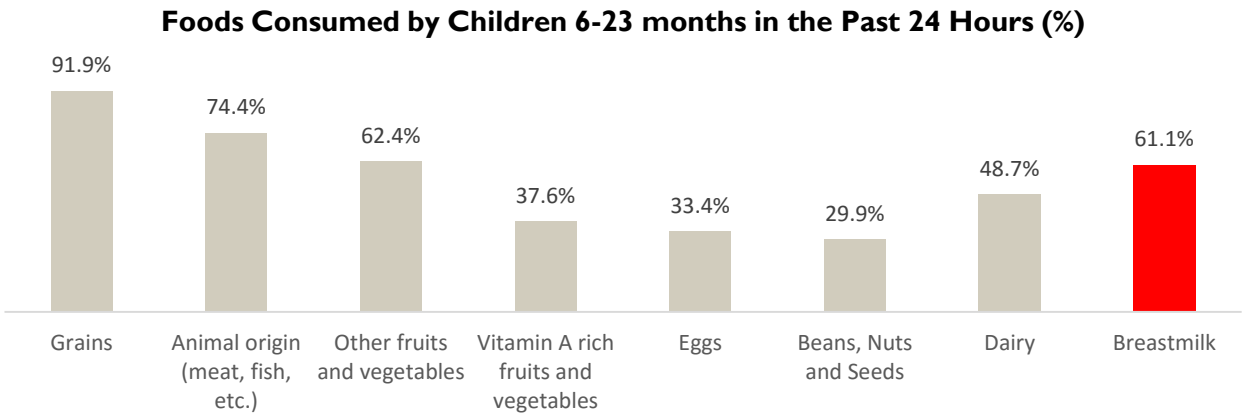


Figure 15 Food Consumption, Children 6-23 Months

Not counted above, but important to understand the full scope of children's dietary practices, are sweets and packaged snacks. In the past day, 42.5% of children 6-23 months had a sugary food such as sweets or biscuits and 30.1% had a packaged snack food (i.e., chips).

The survey also asked about small fish given its importance to children's nutrition as a source of protein, lipids, micronutrients and other nutrients in Cambodia: on average nearly half (46.4%) of children had small fish of any type in the past 24 hours including 16.9% of children who ate small rice field fish in the past three days. Small fish consumption increased with age: 20.8% of children 6-8 months, 52.6% of children 9-11 months, and 64.5% of children 12-23 months had fish in the past day at NOURISH baseline.

[III] Number of meals per day: 95.9% of breastfed children were fed with the recommended frequency (at least twice a day when 6-8 months and at least three times a day when 9-23 months), but only 60.6% of non-breastfed children were fed with the minimum frequency (four or more times a day).

Overall 25.5% of children 6-23 months received a minimum acceptable diet in the past 24 hours. More breastfed children were appropriately fed than non-breastfed children [Figure 17]. Among breastfeeding children 6-23 months of age, 34.1% consumed a minimum acceptable diet in the past 24 hours (criteria include consumption of breastmilk in the recommended frequency, food from at least four food groups, and at least three to four times in the past day and night). In comparison, CDHS 2014 found that 32% of breastfeeding children 6-23 had a minimum acceptable diet.

Among children not breastfeeding at 6-23 months of age, only 7.5% consumed a minimum acceptable diet in the past 24 hours (criteria include consumption of milk or milk products at least twice a day, four food groups, and food at least four to five times per day (including milk feeds). CDHS 2014 found that 26% of non-breastfed children 6-23 had a minimum acceptable diet.

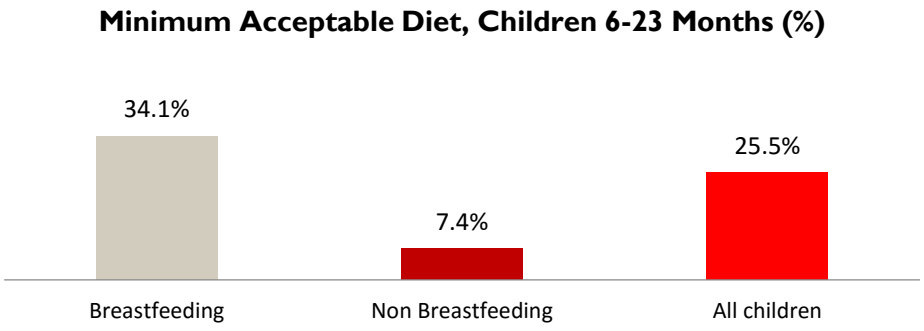


Figure 16 Minimum Acceptable Diet, Children 6-23 Months

Table 10 Minimum Acceptable Diet Children 6-23 Months

Variables	Girls		Boys		Total	
	N	%	N	%	N	%
Breastfeeding						
Minimum acceptable diet	31	31.6%	39	36.5%	70	34.1%
Inadequate diet	67	68.4%	68	63.6%	135	65.9%
Subtotal	*98*	*100%*	*107*	*100%*	*205*	*100%*
Non breastfeeding						
Minimum acceptable diet	4	6.0%	6	14.3%	10	7.5%
Inadequate diet	63	94.0%	36	85.7%	123	92.5%
Subtotal	*67*	*100%*	*42*	*100%*	*133*	*100%*
Combined (all children 6-23 months)						
Minimum acceptable diet	35	21.2%	45	30.2%	80	25.5%
Inadequate diet	130	78.8%	104	69.8%	234	74.5%
Subtotal	*165*	*100%*	*149*	*100%*	*314*	*100%*

In Cambodia, stunting sharply increases around 9 months of age. Stunting is not treatable, but preventable. Prevention requires targeted efforts during the introduction to the complementary feeding period, after six months. At NOURISH baseline, 46.3% of children 9-11 months old ate food (vegetables and animal source foods) with recommended frequency in the past day.

During the last episode of diarrhea, 48.9% of children 6-59 months had more (48.9%) liquid, while 29.7% had the same amount. In the week after diarrhea, 28.4% of children 6-59 months was given more liquid while 56.6% was given the same amount as usual. Regarding food offered, 17.4% was given more food while 31.8% was given the same amount as usual. In the week after diarrhea, 21.1% was given more food and 53.2% was fed the same as usual. Overall, at baseline, 26% of children 6-59 months with diarrhea had increased fluids with continued feeding (i.e., more, the same amount as usual, or somewhat less to eat).

During the most recent fever, 29.1% of children had more to drink, while 37.6% had the same amount as usual. In the week after fever, 22.0% of children was given more to drink while 64.2% of children was given the same amount as usual. Regarding the amount of food offered to children 6-59 months with fever, 10.1% of children was given more while 35.8% was given the same amount as usual and 41.3% was fed less than usual. In the week after fever, 21.1% of children was fed more and 59.6% was fed the same amount as usual. 15.0% of children was fed less than usual. Overall, at baseline, 16.1% of children 6-59 months with fever was given increased fluids and continued feeding (i.e., more, the same amount as usual, or somewhat less).

Table 11 Summary of Findings: NOURISH Infant and Young Child Feeding Indicators

Indicators	Girls	Boys	Total
Prevalence of exclusive breastfeeding of children under 6 months	78.5%	77.2%	**77.8%**
Prevalence of children 6-23 months receiving a minimum acceptable diet	21.2%	30.2%	**25.5%**
% of children age 9-11 months who received enriched solid, semi-solid, or soft foods with frequency in the last 24 hours	42.3%	50.0%	**46.3%**

Child Care and Development

Evidence is continuing to mount indicating that the first years of life are critical in the development of children as they shape cognitive, social and language skills. From birth to age three, global early childhood care and development (ECCD) recommendations focus on good nutrition as well as parent education and early stimulation. The NOURISH Baseline survey used a globally validated tool to assess the environment of the child including early stimulation.[23] In the three days prior to the survey 81.5% of caregivers of children 6-23 months said that the child received affection, primarily from the mother. Caregivers of children 6-23 months also reported the types of activities someone over the age of 15 years did with the child three days prior to the survey. Play was most frequently mentioned (81.7%) followed by taking child out (69.0%) and singing songs (66.1%). Approximately half said that the child was praised (56.1%), asked questions (54.8%) and taught something new (55.8%). Fewer (29.2%) of children had someone count (29.2%) or tell stories (16.1%) [Figure 18]. The person who engaged in these activities most frequently was the mother.

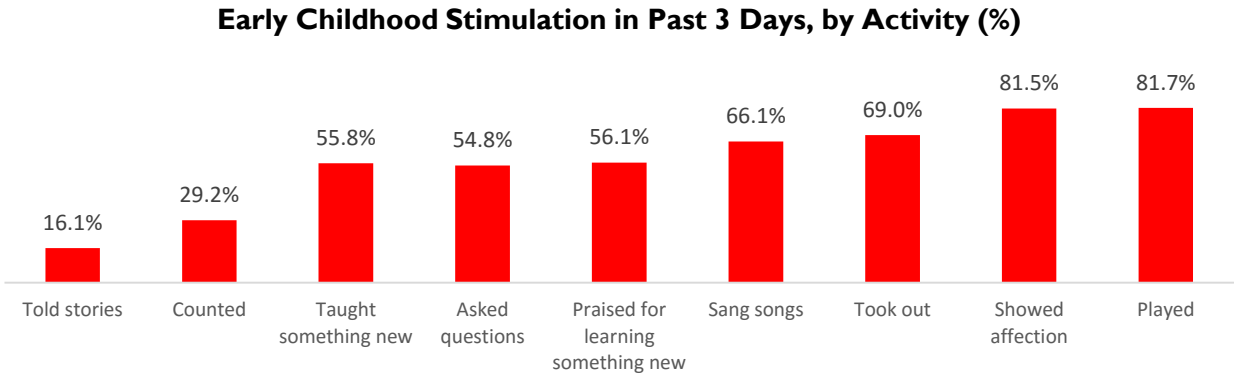


Figure 17 Early Childhood Stimulation Activities in Past 3 Days, among Children 6-23 Months

Caregivers estimated that they spend an average of nine hours per day interacting with the child, with a range from one to 24 hours.

Responsive feeding refers to a reciprocal relationship between a child and caregiver characterized by the child communicating feelings of hunger and satiety through verbal or nonverbal cues, followed by an immediate response from the caregiver. At baseline, 75.9% of caregivers reported that the child tells them when s/he feels hungry and when the child feels full. Additionally, caregivers had positive behaviors and attitudes toward involvement in feeding: 88.5% of caregivers said that they encourage the child to eat, 88% agreed that adults should help or encourage the child to eat and 78.3% agreed that it is important for adults to decide the quantity of food a child eats. Also, 70.2% of caregivers report re-trying to feed a food if the child rejects the food first time. However, only 12.8% reported tracking the quantity of food a child eats every meal and 52.0% let the child decide how much to eat. At baseline caregiver also mixed attitudes toward snacks; nearly half believed that children should be able to eat whatever they want for a snack.

NOURISH constructed a variable on age-appropriate (minimum) stimulation according to child care and development standards combined with responsive feeding. Based on these criteria, 62.6% of children 0-23 months had age-appropriate stimulation. The questionnaire also asked about negative discipline, 42.6% of caregivers of children 0-23 months reported that someone yelled at or criticized the child and 38.6% said that someone hit the child in the three days prior (none under 6 months), primarily the mother.

Table 12 Summary of Findings: NOURISH Child Care and Development Indicator

Indicator	%
% parents/caregivers of children 0-23 months providing age-appropriate stimulation of children according to child care and development standards	62.6%

[23] International Development and Early Learning Assessment (IDELA) Caregiver Questionnaire, Save the Children US.

Water, Sanitation and Hygiene (WASH)

This section provides information on water, sanitation and hygiene (WASH). Highlights of the findings are shown in this section; data not shown and detailed data tables are included in Annex II.

Drinking Water Treatment

The baseline survey analyzed the percent of respondents who practice correct use of recommended household water treatment technologies. According to the USAID, households are considered to be correctly practicing water treatment technologies if the following conditions are met for any of the treatment options:

- **Chlorination**: an enumerator carrying out the chlorine residual test obtains positive results (CT+);
- **Filtration**: enumerators are able to see the filter and verify that water is in the filter's bottom container or comes out of the filter's tap (Filter +);
- **Solar disinfection**: the enumerator is able to see that bottles filled with water are exposed to the sun and self reports indicate that bottles are exposed to the sun for at least six hours per day of exposure (SODIS+) on sunny days and up to two days on cloudy days;
- **Boiling**: study participants report that boiling occurred until water comes to a rolling boil and the same container where water is boiled is used to store boiled water (BOIL+).

The numerator for this indicator is the number of households that properly treat drinking water through chlorination, filtration, solar disinfection or boiling. The denominator for this indicator is the number of households visited in the survey. Results found that 30.8% did not treat water before drinking. This finding is the same as CDHS 2014 rural data. At NOURISH baseline, 42.6% of respondents followed "recommended water treatment practices" as defined by USAID indicator guidelines: 26.7% boil water and keep the water in the same container (do not transfer) and 15.9% filter water before drinking, confirmed by observation.

An additional 13.4% reported boiling water and transferring to a covered container and 5.6% reported buying bottled water[24] (primarily in Battambang from the distributors of the organization Teuk Saat[25]) [Figure 19] (observed).

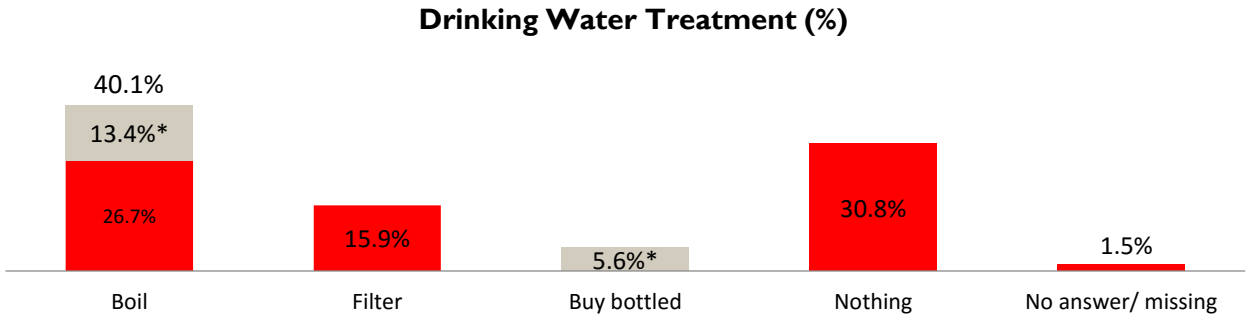


Figure 18 Drinking Water Treatment

*These methods (boil but transfer and buying bottled water) are not included in the definition of recommended water treatment practice, but included in the graph for program considerations.

Among respondents who treated water before drinking, 58.3% said that they keep treated water in the container (in the filter, water pot or bottle) while 27.3% transferred the water to a covered container (observed) and 1.4% transferred the water to an uncovered container (observed). Combined, 61.6% reported drinking treated water (this excludes those who transfer boiled water to an uncovered container or did not answer on whether water is transferred after treatment).

[24] According to the Joint Monitoring Report: "Bottled water is considered to be improved only when the household uses water from an improved source for cooking and personal hygiene. Where this information is not available, bottled water is classified on a case-by-case basis. In some countries, bottled water is the best quality water available."
[25] http://www.1001fontaines.com/en/on-the-field/cambodia

Interviewers at NOURISH baseline observed filters of those who filtered water before drinking: out of those 17.8% of the filters looked dirty. When asked about the frequency of cleaning filters, among those who use filters, 83.2% reported cleaning the water filter weekly or more often.

Sanitation

Respondents at NOURISH baseline were asked to allow the interviewer to observe their toilet facility. A toilet facility is classified as "improved" if it is not shared by other households and if it effectively separates human waste from human contact: flush or pour flush into a piped sewer system, septic tank, or pit latrine; ventilated improved pit (VIP) latrines; pit latrines with a slab; and composting toilets, as defined by the Joint Monitoring Programme (JMP) for Water Supply and Sanitation of WHO and UNICEF. Of all respondents' households, 37% had an improved, not shared, facility. Forty-two percent of respondents reported no facility. For purposes of comparison, CDHS 2014 which sampled households of women and men of reproductive age, found that 39.7% of rural households had an improved, not shared, facility and 52% of rural households had no facility.

Table 13 Household Sanitation Facilities

Variable	N	%
Improved, not shared facility	499	37.0%
Improved, shared facility	194	14.4%
Other	22	1.6%
Unimproved facility	2	0.1%
Shared	64	4.8%
Open Defecation	566	42.0%
Total	**1347**	**100%**

Hygiene: Handwashing

Interviewers at NOURISH baseline observed a place for handwashing with water and soap or another cleansing agent in 63.3% of households. In comparison, CDHS found that 77.1% of rural households had a place for handwashing with soap and water.

Proximity to the latrine is a facilitating factor in handwashing after defecation, one of the key times. Twenty percent of households had a handwashing station with soap or other cleansing agent within 10 meters of a latrine. Among those households with an improved latrine, 35.3% have a handwashing station with soap or another cleansing agent within 10 meters of the latrine.

Hygiene: Household Environment of Caregivers

Interviewers at NOURISH baseline observed the compound of caregivers' households for any type of feces. They observed feces in 39.0% of household compounds: animal feces were observed in 37.3% of the homes and children's feces were seen in 1.7% of the households.

When food was observed, interviewers recorded whether the food was contained away from flies. Interviewers observed food in 22.8% of households; of these households, more than half (51.4%) did not do anything to protect the food from flies.

Almost one-quarter (24.4%) of caregivers of children under five years reported leaving infant stools uncontained: 1.1% put or rinse into a drain or ditch, 2.8% throw into the garbage, 3.3% leave in the open and 17.2% throw into the forest. Sixty percent reported disposing children's stools hygienically[26]: 15.0% put into a latrine, 40.6% bury and 4.1% of children use latrine. After removing households where child feces were

[26] As defined by the Cambodia Demographic and Health Survey 2014.

observed in the compound, 57.1% of caregivers of children under two years and 57.7% of caregivers of children under five years were found to hygienically dispose of children's stools. In comparison, CDHS 2014 found that 70.6% of rural households disposed of children's stools safely.

Table 14 Summary of Findings: NOURISH Water, Sanitation and Hygiene Indicators

Indicators	Total Sample	Households of Children Under 2	Households of Children Under 5
% of households (of women of reproductive age and caregivers of children under 5) in the target area using an improved latrine	37.0%	36.5%	36.3%
% of households (of women of reproductive age and caregivers of children under 5) in the target area practicing correct use of recommended household water treatment technologies	43.4% [49.1% including bottled water]	45.3% [51.0% including bottled water]	44.2% [50.0% including bottled water]
% of households (of women of reproductive age and caregivers of children under 5) with soap and water at a hand washing station used by family members	63.3%	64.3%	56.8%
% of caregivers disposing of feces appropriately	--	57.1%	57.7%

Agriculture

This section provides information on questions collected at baseline related to homestead food production, focusing on nutritious vegetables. As part of the nutrition-sensitive agriculture efforts for "first 1,000 days" families, NOURISH promotes certain types of nutritious vegetables which are locally available, need minimal water and are hardy enough to grow in small spaces year-round: amaranth, moringa and yard-long bean. Pumpkin and sweet potato are also encouraged as locally acceptable complementary food for young children and snacks for pregnant women. Highlights of the findings are shown in this section; detailed data tables are included in Annex II.

All respondents interviewed at baseline were asked whether they grow food at home. Interviewers requested to observe the garden. Overall 74.9% of homes grew some type of food in the compound, but only 39.7% (n=535) grow at least one of three local high-nutrient vegetables promoted by NOURISH for pregnant and lactating women and young children: 32.3% grow amaranth, 23.7% grow moringa and 14.8% raise yard-long bean. Additionally, 28.1% grow pumpkin and 25.3% grow sweet potato [Figure 20].

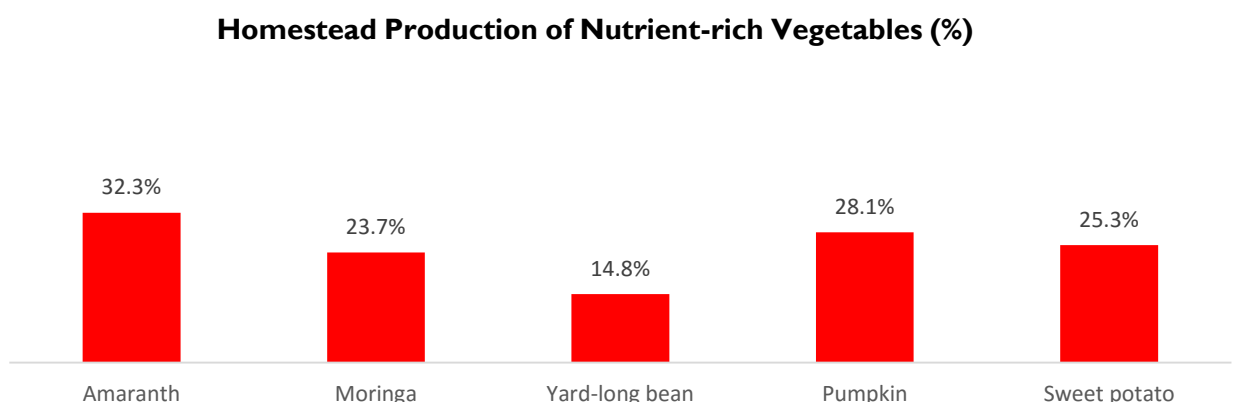


Figure 19 Nutrient-rich Vegetable Production at Home in "First 1,000 Day" Households

Of the 39.7% who grows at least one of these vegetables (n=535), nearly all said that the family eats the vegetables, about half said that they share with neighbors, one-third said that they share with family and friends and a few sell the vegetables [(16.6% of women who grow vegetables or 6% of the total sample (n=35)].

Consumption of vegetables grown at home was higher among adult women and men than among children. While nearly all women and men ate vegetables grown at home, children's consumption of the vegetables increased with age: 50.6% of children 6 to 11 months (n=43 of 85 households with children 6-11 months that grow vegetables at home), 56.9% of children 12 to 23 months (n=41 of 72 households with children 12-23 months that grow vegetables at home), and 75.0% of children 12 to 23 months (n=18 of 24 households with children 24-59 months that grows vegetables at home) are reported to be given these vegetables [Figure 21].

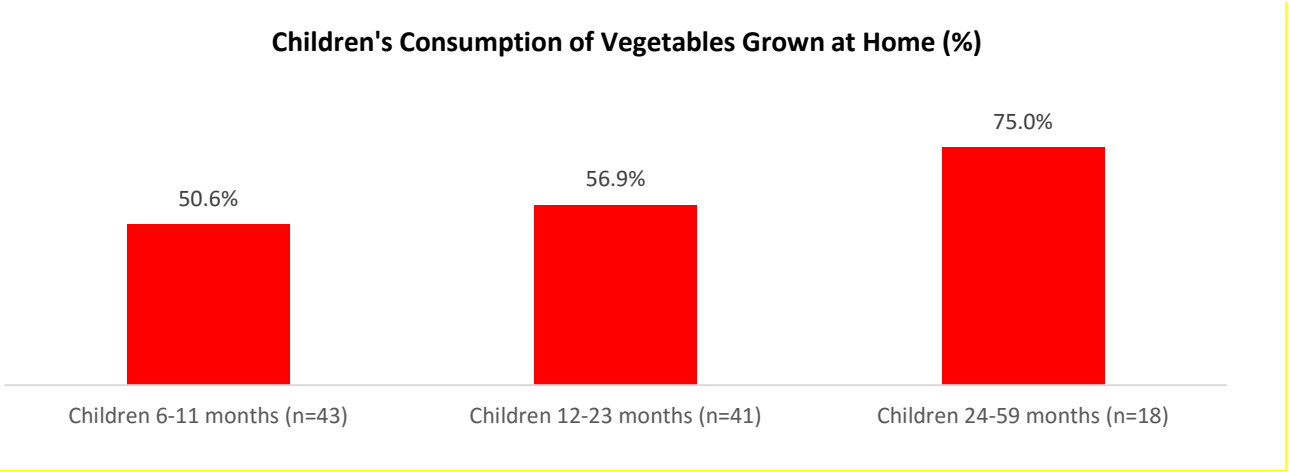


Figure 20 Consumption of Nutrient-rich Vegetables Grown at Home, by Family Member

Compared to non-poor women (33%), significantly more poor (42%) women reported eating vegetables grown at home (p=<0.05). However, there was no difference between poor and non-poor related to feeding children under two years of age.

CONCLUSIONS

The baseline survey aimed to document baseline levels for each key NOURISH indicator in order to compare to results at the end of the project. An endline survey will be conducted on or around November 2018, near the end of the project, during the same season of the baseline to ensure an accurate reflection of any changes in nutritional status and behaviors related to health and nutrition, WASH and agriculture.

The sampling frame was designed to be representative of women of reproductive age and caregivers of children under five years of the NOURISH Project area: the poorest rural communities in three provinces in Cambodia. Consistent with national data for this rural area, most women and/or their husbands are farmers, and 30% are officially identified as poor (33% of caregivers of young children, 31% of women of reproductive age and 27% of pregnant women).

Migration is a predominant feature of life in the project areas. At the time of the baseline 18% of women had husbands working away from the village; half of those in Thailand. Migration also affects care of young children. In this sample, 10% of children's primary caregivers was a grandmother or aunt. The proportion of primary caregivers who were not mothers increased with the child's age (for example, 13% of children over 6 months had a grandmother as the primary caregiver compared to 7% of children under 6 months).

While most health services are reaching people, social and financial services are less accessible. Less than two-thirds of children had a birth certificate. Few women had a bank account: 6% of all women and 3% of poor women had a bank account of any type.

Maternal Health and Nutrition Key Findings

Maternal care seeking practices in the project area are similar or better than national averages; nearly all women in the project area received ANC, and over 80% sought four or more ANC visits. Over three-quarters started ANC in the first trimester. Although postnatal care in the first two days after birth was lower than the national rural average (83% vs 89%), this is related to greater facility-based delivery in this sample than the national rural average; women stay in health centers for two days after delivery and get care while in the health center so do not count separate return visits.

At NOURISH baseline, 11% of mothers assessed children to be too small at birth. Among children with a recorded weight at birth, 5% were under 2.5kg at birth. Although this is lower than national average, birthweight data should be interpreted cautiously since 42% of children do not have a recorded birthweight on the Child Health Card.

The survey identified Health Centers as the primary place for antenatal care, childbirth and postnatal care service provision. The ANC services related to nutrition that women received generally follow global recommendations, including iron-folate supplementation. An important exception is support for adequate weight gain during pregnancy. Although nearly all women were weighed during ANC, only half received any advice on weight gain during pregnancy and only 5% recalled what could have been accurate advice. Moreover, less than one-third of women may have gained sufficient weight during their most recent pregnancy.

Women's nutrition findings were generally consistent with national data: 52% of pregnant women and 42% of non-pregnant women of reproductive age at NOURISH baseline were anemic. Slightly more women of reproductive age in this sample were underweight (15%) compared to national data (14%). However, women's underweight data should be interpreted cautiously because underweight is based on global or Asian regional weight and height standards. Due to the high prevalence of stunting in Cambodia, where women are too short and too light, this measure may not provide a useful interpretation of the current situation. For example, as women get taller BMI will appear to be worsening especially in young women.

Women consumed 4.67 food groups in the past 24 hours, suggesting that women generally ate a diverse diet at the time of the survey. The most commonly eaten food groups included grains (rice), animal source foods,

fruits and vegetables, and green vegetables. As this survey collected dietary information on the project indicators, the quantity of food consumed was not collected.

Among children 6 to 59 months, the survey identified 59% of children with anemia, similar to CDHS 2014. Chronic malnutrition, or stunting, in children also mirrored CDHS 2014 rural findings. Acute malnutrition, in contrast, was lower than national averages. At NOURISH baseline, 17% of children under five years was underweight compared to 24% nationally and 8% of children under five years was wasted, with low weight-for-height, compared to 10% in CDHS 2014. Lower acute malnutrition may be related to seasonality; the survey was conducted during the time of greatest food availability. There were significant differences between girls and boys in malnutrition prevalence; boys were more likely to be stunted and underweight than girls. Although overall infant and young child feeding practices appeared better for boys, the differences were not significant.

Nutrition care seeking practices for children under two years are relatively low compared to maternal care seeking. Children were most commonly brought to a health facility for vaccinations (86%), sick child care (46%) and weighing (46%). Only 31% of children went in the month of the survey or the previous month, and only 15% were weighed in the prior month, according to GMP recommendations.

Despite recent declines in urban Cambodia, breastfeeding practices remain high in rural areas. In this survey, 94% of children had been ever breastfed and 78% were exclusively breastfed for six months. Among the 22% not exclusively breastfed, 61% was given prelacteal feeds the first day of birth. Ten percent have non-maternal caregivers (mainly grandmothers).

However, complementary feeding practices for children over six months are not in line with global or national recommendations. At NOURISH baseline, 26% of children 6-23 months were fed a minimum acceptable diet in the past 24 hours. More breastfed children were appropriately fed than non-breastfed children. Among breastfeeding children 9-23 months of age, 35% consumed a minimum acceptable diet in the past 24 hours compared to 32% nationally (criteria include consumption of breastmilk in the recommended frequency, food from at least four food groups, and at least three to four times in the past day and night). However, among children 6-23 months of age not breastfeeding, only 7% consumed a minimum acceptable diet in the past 24 hours compared to 26% nationally (criteria include consumption of milk or milk products at least twice a day, four food groups, and at least four to five times per day (including milk feeds) putting these children at greater risk for malnutrition. Like national data, children 6-8 months were less likely than older children to be fed a minimum acceptable diet.

An important practice to address is feeding sweets and packaged snacks to children under two years of age. In the past day, 43% of children had a sugary food such as sweets or biscuits and 31% had a packaged snack food (i.e., chips).

As stunting sharply increases around nine months of age, stunting prevention requires targeted efforts to the introduction of complementary food period. The survey found that less than half (46%) of children 9-11 months old ate a diverse diet needed for growth and development (including vegetables and animal source foods) with recommended frequency in the past day.

It is important to note that this survey collected dietary information related outcome indicators; thus the quantity of food consumed was not yet collected. This information will contribute to a more comprehensive understanding of the complementary feeding situation.

Feeding practices during illness are also a concern. CDHS 2014 found that 13% of children under six months had diarrhea in the past two weeks. Among children in this sample, during the last episode, only 24% were given more liquids during the illness and 22% were given more liquids in the week after illness as recommended. CDHS 2014 indicated that 20% of children under six months had a fever in the past two weeks. Among children in this sample, during the last episode, only 20% of caregivers gave the child more to drink and 23% gave the child more to drink in the week after the illness.

Feeding practices during illness also are suboptimal for children 6 to 59 months: 26% of children with diarrhea were given increased fluids with continued feeding (i.e., more, the same amount as usual, or somewhat less to eat). For fever, 16% of children with fever were given increased fluids and continued feeding (i.e., more, the same amount as usual, or somewhat less).

The survey documented child care and development attitudes and practices as well; 63% of children under two years received age-appropriate stimulation based on a composite indicator combining child care and development standards and responsive feeding. This cannot be compared to national data because CDHS asked only about children three to five years of age. The results of this survey highlight the need to expand national and local attention on child care below the age of three, to include the time of fastest development-- the first 1,000 days.

Eighty-two percent of children received some type of affection in the past three days (higher among children under six months), but worryingly, 10% of children received no affection of any kind. Play was the most common type of stimulation (82%), followed by going out (69%) and singing songs (66%). Just over half of children were praised, asked questions or taught something new in the past three days. Fewer children were taught to count (29%) or told stories (16%). The primary caregiver was generally the only person over 15 years engaged in any of these activities with the children.

Negative discipline methods are prevalent, and increase with the child's age: 43% of children 0-23 months were yelled at or criticized and 39% of children were hit in the past three days, nearly always by the mother. No child under six months was hit.

Responsive feeding practices are largely positive, especially for children under six months of age. Three-quarters (76%) of caregivers respond to children's cues on hungry and fullness when deciding when to feed and when to stop feeding; 89% also encouraged the child to eat. However, the findings highlighted key areas to improve related to attitudes and practices related to child feeding: only 13% of caregivers track the quantity of food a child eats. Half believed that children should be able to eat whatever they want for a snack.

The NOURISH Project aims to improve each key health and nutrition indicators by at least 10%. The project targets a 25% increase in the percentage of children 9-11 months who get a diverse diet with frequency) to focus efforts on key behaviors to impact stunting prevention.

Water, Sanitation and Hygiene Key Findings

In the project area, 37% of respondents' had an improved, not shared, sanitation facility (confirmed by observation) while 42% of had no access to any type of facility. However, it is important to note that only households of women of reproductive age and young children were sampled in this survey while the NOURISH Project is working on community-wide sanitation of all households to achieve open defecation free status of the entire community.

Interviewers observed the treatment and storage of water for drinking. Nearly one-third of women do not treat drinking water. Forty-three percent followed recommended water treatment practices by boiling and keeping water in the same container, or filtering water. Among those who treat water, most kept the water in the same container or transferred it to a covered container. Filter cleaning should be addressed: 18% of filters observed looked dirty and most were reported to be cleaned too often (once a week or more frequently). The recommended cleaning frequency is once per month to avoid breakage or contamination.

Two-thirds of women's households had a place for hand washing with water and soap and one-third of women's households had a designated handwashing station with soap. However, only one-third of households with an improved latrine had a hand washing station with soap and water in proximity to the latrine.

Home hygiene was also suboptimal: 32% of homes with children under two years had feces left in the open at the time of interview, primarily animal feces but also some children's. Half of the food (observed in 23% of households) was left unprotected from flies.

Nearly half of parents/caregivers reported that children's stools are not hygienically contained in a latrine or buried—decreasing with age as children learn to use latrines. The proportion of children's whose stools are hygienically contained was similar to CDHS findings for children under two years, consistent with the large proportion of children under two in this sample.

The NOURISH Project aims to improve sanitation and hygiene behaviors by at least 20%. The target is 25% increase in the percentage of households using an improved, not shared latrine.

Agriculture

Research in Cambodia links household food security and maternal thinness.[27] The Ministry of Agriculture, Forestry and Fisheries (MAFF)'s Policy and Strategic Framework on Childhood Development and Protection Strategy in the Agriculture Sector recommends that families of pregnant women and young children raise nutrient-rich vegetables at home. At NOURISH baseline, although two-thirds of women have some type of plant growing in the household compound, only 40% of women grow nutrient-rich vegetables at home.

Out of those who grow nutrient-rich vegetables, most (89%) women said that they and other adults in their household eat the vegetables they grow; few sell any of what they grow. However, only half of the children age 6-59 months in households that grow vegetables eat what is grown.

The survey findings highlight the urgency for accelerated efforts to improve nutrition of women and children by integrating health and nutrition, WASH and agriculture interventions for the benefit of children in the "first 1,000 days".

The NOURISH Project aims to improve agriculture practices for nutrition in "first 1,000 day" households indicators by at least 10%.

[27] C M McDonald, Household food insecurity and dietary diversity as correlates of maternal and child undernutrition in rural Cambodia. *European Journal of Clinical Nutrition* (2015) 69, 242–246

ANNEX I: Data Collection Protocol

Data Collection and Analysis

Baseline and End-line

The baseline survey was cross-sectional to examine the prevalence of key indicators among the defined project target population at a single point in time, as well as the relationship between these indicators and socio-demographic characteristics. The cross-sectional data will be used for programming targeting purposes and to compare to the endline survey at the end of the project. The endline survey will similarly be cross-sectional to collect information on key indicators at a single point in time. Longitudinal or panel data will not be collected.

Instruments

The questionnaires were developed by NOURISH based on validated questions of the CDHS and Feed the Future modules.[28] Questionnaires included sections on anemia testing, anthropometry and interview questions including: background characteristics (e.g. age, family structure, work), knowledge and attitudes towards related contextual issues such as perceptions of food for children, care practices and women's confidence, and behaviors on diet/feeding, and sanitation and hygiene.

Indicator	Instrument
HemoCue Measures	
Prevalence of anemia among women of reproductive age and pregnant women	Women of reproductive age
Prevalence of anemia among children 6-59 months	Caregiver of children under 5
Anthropometric Measures	
Prevalence of underweight women	Women of reproductive age
Prevalence of stunted children <5	Caregiver of children under 5
Prevalence of wasted children <5	Caregiver of children under 5
Prevalence of underweight children <5	Caregiver of children under 5
Questionnaires	
Women's Dietary Diversity: Mean number of food groups consumed by women of reproductive age	Women of reproductive age
Prevalence of exclusive breastfeeding of children under 6 months	Caregiver of children under 5
% of children age 9-11 months who received enriched food with frequency in the last 24 hours	Caregiver of children under 5
Prevalence of children 6-23 months receiving a minimum acceptable diet	Caregiver of children under 5
% parents/caregivers of children 0-23 months providing age-appropriate stimulation of children	Caregiver of children under 5
% children <5 who had diarrhea in prior 2 weeks	Caregiver of children under 5
% of households in the target area using an improved latrine	Caregiver of children under 5
% of households practicing correct use of recommended HH water treatment technologies	Caregiver of children under 5
% of households with soap and water at a hand washing station commonly used by family members	Caregiver of children under 5
% of caregivers disposing of feces appropriately	Caregiver of children under 5

[28] Feed the Future M&E Guidance Series. Volume 8: Population-Based Survey Instrument for Feed the Future Zone of Influence Indicators with Revised WEAI Module, October 2012

Prior to training the interviewers, selected surveyors and NOURISH staff piloted the questionnaire for language, understanding, skip patterns, as well as time, and then corrected.

Training of Researchers
The Royal University of Agriculture and the NOURISH M&E Unit trained the data collectors. The four-day training included key principles of interviewing, practice using each questionnaire, and practice in the field to identify households, select respondents and conduct interviews using the questionnaires and record the answers.

Health workers weighed and measured women and children to ensure that weights and heights were read and recorded correctly and consistently across locations, following training detailed in the FANTA Guide.[29] Health workers conducted HemoCue measures.

Data Collection
The interviews were conducted at each respondent's home in a location of their choice. All efforts were made to find a private and quiet place for the interview, away from other people.

Anthropometric data were assessed at a central location in the village decided by the Village Chief, such as the village chief's home or the community meeting hall. The reason it was done publically is because calling caregivers together is common practice in Cambodia, for immunization, Vitamin A distribution, outreach (including weighing for remote villages).

Prior to data collection, the interviewers obtained verbal consent from the respondent or caregiver of the child. This was done by reading the consent form aloud which explained the purpose and process of the study and clarified that participation was voluntary with no penalties for refusing to participate. If the woman agreed, she was asked to sign or provide a thumbprint as a sign of consent.

Children were weighed with minimal clothes. Children were weighed and measured twice, following standard guidance. Children under two years were measured lying down while children over two years were measured standing up.

Following the weighing and measurements, any caregiver of a child who is classified as severely malnourished was referred to the health system in collaboration with health workers.

Unique Identifier Codes
Each household was given a unique identifier code based on the Commune, Village, the type of respondent (W = women of reproductive age; C = caregiver; H = household head) and the number of the interview. The code was comprised of the first letter of the Province, first letter of the Commune, first letter of the Village, and the number of the interview.

Data Quality and Management
Anthropometrists and interviewers were trained for one week prior to the field work. The training will included time for demonstration and practice with feedback. Anthropometrists were trained using proven methods to standardize data[30]. RUA was responsible for hiring researchers and conducting the training; NOURISH will provide technical oversight of the data collectors' training.

RUA Supervisors and NOURISH staff conducted spot checks on data cleaning, coding and entry.

To prevent losing any of the entered data, the data entry supervisor will back up the data entered on individual computers weekly.

[29] Cogill, Bruce. 2003. *Anthropometric Indicators Measurement Guide.* Washington, DC: Food and Nutrition Technical Assistance (FANTA) Project, FHI 360.
[30] Cogill, Bruce. 2003. *Anthropometric Indicators Measurement Guide.* Washington, DC: Food and Nutrition Technical Assistance (FANTA) Project, FHI 360.

Data Analysis
The data were entered into Excel and analyzed with SPSS. With the data sets that show each variable, the analysis prepared the results according to NOURISH indicators. For some indicators, analysis disaggregated the results by sex and age, as per the Performance Indicator Reference Sheets in the NOURISH Project Monitoring and Evaluation Plan.

Ethical Considerations
In keeping USAID's policy (22 CFR Part 225), NOURISH received approval to conduct research in compliance with US federal standards for human subject research with review. The baseline survey was approved by the Cambodia National Ethics Committee (NEC) for Health Research as well as the internal Save the Children Ethics Review Committee (ERC).

Informed Consent: Participation in the survey was voluntary. Prior to participation, caregivers were be informed that they have no obligation to participate and would face no penalty or consequence if they choose not to participate. If they agreed, they were informed that they were free to withdraw from the study at any time, again with no penalty or consequence. On the day of the survey, interviewers read the consent statement aloud and discussed it with the participant before consent. Consent forms will be kept in a locked cabinet in the Battambang NOURISH office for 1 year, and then destroyed.

For all minors under the age of 18 years, the primary caregiver or guardian was asked for consent. For young children under five years of age, the caregiver was requested to sign (or give a thumbprint) as a sign of consent prior to their interview and the measurement of the child.

Confidentiality: Confidentiality was ensured during all stages of the study. Each woman's age and each child's date of birth and sex was recorded, but no names or other identifying characteristics of women, individual caregivers and children.

Electronic versions SPSS computer files containing these identifiers (birthdate) are password protected (both in the local data collection firm and NOURISH office). The final data set can be accessed by RUA Supervisors and Analysts, and the NOURISH staff. If ever reported or shared, findings will be reported by province, rather than by village or commune, to further protect individual confidentiality.

Respect for Respondent's Rights: Respondents were informed of all risks and protections in the written consent form. Participants were informed of their right to withdraw from the study and to not answer any questions they do not feel comfortable answering. Respondents were also provided with contact information for a local contact should they have any further questions or concerns.

NOURISH carefully assessed potential risks and benefits for respondents, and aimed to eliminate or minimize all possible risks. A potential risk is that children who are malnourished may not be identified due to human error in weighing and measuring children. To minimize the potential risk of incorrectly identifying a malnourished child, a Type II error (false negative) in which a malnourished child is classified as normal, NOURISH will use only trained and experienced anthropometrists to conduct weighing and measuring. The nutritionist on NOURISH staff will conduct a (refresher) training of experienced anthropometrists. Furthermore, the same persons will do the weighing and measuring throughout the baseline in all villages to ensure consistency.

There may be minimal psychological risk that may arise from some questions that some participants may find to be sensitive. To minimise this risk, participants will be advised that they can decline to answer questions that make them uncomfortable. Additionally, participants will be assured that refusal to participate will not affect any services or care they would like to receive from the government of Cambodia or any other service provider.

Families and children will benefit by receiving the weight and height screening. Any child who is under the standard weight and/or height for her/his age will be offered follow-up counseling through the regular systems established by the project- trained Village Health Support Group and health workers. Additionally, staff supported referrals to health centers or referral hospitals for any children are seriously ill or severely malnourished not growing well (-3 SD), or for any other concerns that caregivers may have. Any child from a poor family referred to a referral hospital will receive funds for transportation through the Health Equity Fund.

Women of reproductive age who were weighed and measured who have a low body mass index (BMI) received follow up counseling through the regular systems established by the project-trained Village Health Support Group and health workers.

Participants were informed that theirs and other Cambodian communities will benefit because information gained from this study will allow for more informed decision-making in programme design and service delivery.

ANNEX II: Data Tables

Demographics

Women's Demographic Tables

Table 15 Respondents by Category, Province and Age

Ages	Caregivers of Children 0- 59 months		Women Reproductive Age		Pregnant Women		Total	
	N	%	N	%	N	%	N	%
Battambang								
< 20	43	13.0%	23	24.0%	34	21.7%	100	17.2%
20-29	161	48.8%	39	40.6%	82	52.2%	282	48.4%
30-39	87	26.4%	26	27.1%	37	23.6%	150	25.7%
40-49	17	5.2%	8	8.3%	4	2.5%	29	5.0%
50-59	15	4.5%	0	0.0%	0	0.0%	15	2.6%
> 60	7	2.1%	0	0.0%	0	0.0%	7	1.2%
Total	**330**	**100%**	**96**	**100%**	**157**	**100%**	**583**	**100%**
Siem Reap								
< 20	44	12.2%	27	25.5%	24	14.5%	95	15.0%
20-29	195	54.0%	39	36.8%	95	57.6%	329	52.1%
30-39	90	24.9%	30	28.3%	44	26.7%	164	25.9%
40-49	23	6.4%	10	9.4%	2	1.2%	35	5.5%
50-59	5	1.4%	0	0.0%	0	0.0%	5	.8%
> 60	4	1.1%	0	0.0%	0	0.0%	4	.6%
Total	**361**	**100%**	**106**	**100%**	**165**	**100%**	**632**	**100%**
Pursat								
< 20	6	8.0%	12	57.1%	8	22.2%	26	19.7%
20-29	44	58.7%	5	23.8%	20	55.6%	69	52.3%
30-39	24	32.0%	4	19.0%	8	22.2%	36	27.3%
40-49	1	1.3%	0	0.0%	0	0.0%	1	.8%
Total	**75**	**100%**	**21**	**100%**	**36**	**100%**	**132**	**100%**
TOTAL	**766**		**223**		**358**		**1,347**	

Table 16 Women's Marital Status, by Province

Marital status	Battambang		Siem Reap		Pursat		Total	
	N	%	N	%	N	%	N	%
Married	531	96.7%	566	96.4%	110	94.8%	1207	96.4%
Widowed	12	2.2%	10	1.7%	5	4.3%	27	2.2%
Divorced	6	1.1%	8	1.4%	1	0.9%	15	1.2%
No answer	0	0.0%	3	0.5%	0	0.0%	3	0.2%
Total	**549**	**100%**	**587**	**100%**	**116**	**100%**	**1252**	**100%**

Table 17 Women's Education, by Province

	Battambang		Siem Reap		Pursat		Total	
	N	%	N	%	N	%	N	%
Illiteracy	13	2.2%	19	3.0%	2	1.5%	34	2.5%
Primary	302	51.8%	300	47.5%	63	47.7%	665	49.4%
Secondary	146	25.0%	124	19.6%	36	27.3%	306	22.7%
High	53	9.1%	66	10.4%	12	9.1%	131	9.7%
Above High	5	0.9%	2	0.3%	1	0.8%	8	0.6%
No answer	64	11.0%	121	19.1%	18	13.6%	203	15.1%
Total	**583**	**100%**	**632**	**100%**	**132**	**100%**	**1347**	**100%**

Table 18 Women's Occupation

	Total	
	N	%
Farmer	576	42.8%
Stay at home	362	26.9%
Daily labor	191	14.3%
Seller	110	8.2%
Construction/ factory	21	1.6%
Unemployed	31	1.9%
Other	48	2.3%
Missing	8	1.6%
Total	**1,347**	**100%**

Table 19 Women's Occupation, by Category of Respondent

	Caregivers		Women of Reproductive Age		Pregnant Women		Total	
	N	%	N	%	N	%	N	%
Farmer	332	43.3%	98	43.9%	146	40.8%	576	42.8%
Stay at home	162	21.1%	47	21.1%	153	42.7%	362	26.9%
Daily labor	178	23.2%	10	4.5%	3	0.8%	191	14.3%
Seller	48	6.3%	27	12.1%	35	9.8%	110	8.2%
Construction / factory	7	0.9%	7	3.1%	7	2.0%	21	1.6%
Unemployed	7	0.9%	21	9.4%	3	0.8%	31	1.9%
Other	30	3.9%	8	3.6%	10	2.8%	48	2.3%
Missing	2	0.3%	5	2.2%	1	0.3%	8	1.6%
Total	**766**	**100%**	**223**	**100%**	**358**	**100%**	**1,347**	**100%**

Table 20 Husbands' Education, by Province

	Battambang		Siem Reap		Pursat		Total	
	N	%	N	%	N	%	N	%
Illiteracy	10	2.1%	10	2.2%	0	0.0%	20	2.0%
Primary	231	48.0%	255	56.8%	39	42.9%	525	51.4%
Secondary	154	32.0%	111	24.7%	32	35.2%	297	29.1%
High	60	12.5%	56	12.5%	18	19.8%	134	13.1%
Above High	15	3.1%	2	0.4%	2	2.2%	19	1.9%
No answer	11	2.3%	15	3.3%	0	0.0%	26	2.5%
Total	**481**	**100%**	**449**	**100%**	**91**	**100%**	**1021**	**100%**

Table 21 Husbands' Occupation

	N	%
Other	108	9.0
Farmer	735	61.0
Factory	24	2.0
Seller	48	4.0
Motor taxi	18	1.5
Construction/Carpenter	138	11.5
Teacher/official	59	4.9
Unemployed	9	.7
Daily labor	66	5.5
Total	**1205**	**100%**

Table 22 Caregivers' Husbands' Location of Work: In or Outside of Village, by Province

	Battambang		Siem Reap		Pursat		Total	
	N	%	N	%	N	%	N	%
In village	227	73.0%	297	88.1%	61	88.4%	585	81.6%
Outside	84	27.0%	40	11.9%	8	11.6%	132	18.4%
Total	**311**	**100%**	**337**	**100%**	**69**	**100%**	**717**	**100%**

Table 23 Among Husbands who Work Outside of Village, Location of Work, by Province

	Battambang		Siem Reap		Pursat		Total	
	N	%	N	%	N	%	N	%
In Cambodia	36	42.9%	14	36.8%	3	37.5%	53	40.8%
Thailand	45	53.6%	22	57.9%	5	62.5%	72	55.4%
Other	3	3.6%	1	2.6%	0	--	4	3.1%
Don't know	0	--	3	2.6%	0	--	3	0.8%
Total	**84**	**100%**	**40**	**100%**	**8**	**100%**	**132**	**100%**

Table 24 Number of Children under Caregiver's Supervision, by Province

	Battambang		Siem Reap		Pursat		Total	
	N	%	N	%	N	%	N	%
1	202	61.2%	231	64.0%	48	64.0%	481	62.8%
2	109	33.0%	114	31.6%	24	32.0%	247	32.2%
3	13	3.9%	12	3.3%	3	4.0%	28	3.7%
4	5	1.5%	2	.6%	0	-	7	.9%
5	1	.3%	1	.3%	0	-	2	.3%
8	0	-	1	.3%	0	-	1	.1%
Total	**330**	**100%**	**361**	**100%**	**75**	**100%**	**766**	**100%**

Table 25 Type of Relationship to Child, by Province

	Battambang		Siem Reap		Pursat		Total	
	N	%	N	%	N	%	N	%
Mother	274	83.0%	335	92.8%	71	94.7%	680	88.8%
Aunt	20	6.1%	5	1.4%	4	5.3%	29	3.8%
Grandmother	36	10.9%	21	5.8%	0	0.0%	57	7.4%
Total	**330**	**100%**	**361**	**100%**	**75**	**100%**	**766**	**100%**

Table 26 Children's Ages, by Province

	Battambang		Siem Reap		Pursat		Total	
	N	%	N	%	N	%	N	%
0-5	157	47.6%	173	48.1%	41	55.4%	371	48.6%
6-11	80	24.2%	78	21.7%	19	25.7%	177	23.2%
12-23	73	22.1%	91	25.3%	8	10.8%	172	22.5%
24-35	13	3.9%	13	3.6%	4	5.4%	30	3.9%
36-47	5	1.5%	5	1.4%	1	1.4%	11	1.4%
48-60	2	0.6%	0	0.0%	1	1.4%	3	.4%
Total	**330**	**100%**	**360**	**100%**	**74**	**100%**	**764**	**100%**

Table 27 Children's Ages and Sex, by Province

Provinces	Age in months	Female		Male		Total	
		N	%	N	%	N	%
Battambang	0-5	70	43.2%	86	53.8%	156	48.4%
	6-11	42	25.9%	32	20.0%	74	23.0%
	12-23	42	25.9%	30	18.8%	72	22.4%
	24-35	6	3.7%	7	4.4%	13	4.0%
	36-47	1	.6%	4	2.5%	5	1.6%
	48-60	1	.6%	1	.6%	2	.6%
	Total	**162**	**100%**	**160**	**100%**	**322**	**100%**
Siem Reap	0-5	80	48.5%	92	48.9%	172	48.7%
	6-11	30	18.2%	42	22.3%	72	20.4%
	12-23	47	28.5%	44	23.4%	91	25.8%
	24-35	6	3.6%	7	3.7%	13	3.7%
	Total	**165**	**100%**	**188**	**100%**	**353**	**100%**
Pursat	0-5	20	60.6%	21	51.2%	41	55.4%
	6-11	9	27.3%	10	24.4%	19	25.7%
	12-23	1	3.0%	7	17.1%	8	10.8%
	24-35	2	6.1%	2	4.9%	4	5.4%
	36-47	1	3.0%	0	0.0%	1	1.4%
	48-60	0	0.0%	1	2.4%	1	1.4%
	Total	**33**	**100%**	**41**	**100%**	**74**	**100%**
TOTAL		**360**		**389**		**749**	

Table 28 Observation of Child's Birth Certificate, by Province

	Battambang		Siem Reap		Pursat		Total	
	N	%	N	%	N	%	N	%
Yes observed	185	56.1%	235	65.1%	38	50.7%	458	59.8%
Yes, not observed	71	21.5%	68	18.8%	21	28.0%	160	20.9%
No	65	19.7%	50	13.9%	16	21.3%	131	17.1%
Don't know	9	2.7%	8	2.2%	0	0.0%	17	2.2%
Total	**330**	**100%**	**361**	**100%**	**75**	**100%**	**766**	**100%**

Table 29 Poverty Status, by Respondent Category and Province

	Category	Battambang	Siem Reap	Pursat	Total
Yes (ID Poor Card observed)	Caregiver	90	69	11	170
		56.6%	63.9%	47.8%	58.6%
	Women of Reproductive Age (WRA)	31	12	6	49
		19.5%	11.1%	26.1%	16.9%
	Pregnant Women	38	27	6	71
		23.9%	25.0%	26.1%	24.5%
	Total	**159**	**108**	**23**	**290**
		100%	**100%**	**100%**	**100%**
Yes (ID Poor Card not observed)	Caregivers	12	32	5	49
		29.3%	69.6%	83.3%	52.7%
	WRA	13	5	0	18
		31.7%	10.9%	0.0%	19.4%
	Pregnant Women	16	9	1	26
		39.0%	19.6%	16.7%	28.0%
	Total	**41**	**46**	**6**	**93**
		100%	**100%**	**100%**	**100%**
Yes (ID Poor Card expired)	Caregivers	17	13	0	30
		100%	100%		100%
	Total	**17**	**13**	**0**	**30**
		100%	**100%**		**100%**
No	Caregivers	211	246	59	516
		58.4%	53.6%	57.3%	55.9%
	WRA	49	86	15	150
		13.6%	18.7%	14.6%	16.3%
	Pregnant Women	101	127	29	257
		28.0%	27.7%	28.2%	27.8%
	Total	**361**	**459**	**103**	**923**
		100%	**100%**	**100%**	**100%**
Do not know/ missing	Caregiver	0	1	0	1
			100%		100%
	Pregnant Women	2	0	0	2
		100%			100%
	Total	**2**	**0**	**0**	**2**
		100%			**100%**
Total	**Caregiver**	330	361	75	766
		56.9%	57.6%	56.8%	57.2%
	WRA	93	103	21	217
		16.0%	16.4%	15.9%	16.2%
	Pregnant Women	157	163	36	356
		27.1%	26.0%	27.3%	26.6%
	TOTAL	**580**	**627**	**132**	**1339**
		100%	**100%**	**100%**	**100%**

Health and Nutrition

Maternal Health and Nutrition Tables

Table 30 Sources of Antenatal Care (ANC)

	N	%
National Hospital	2	0.3%
Provincial Hospital	76	10.7%
Private Facility	14	2.0%
Health Center	587	82.7%
Health Post	4	0.6%
No health facility-based ANC	23	3.2%
No answer	4	0.6%
Total	**710**	**100%**

Table 31 Timing of First ANC Visit

	N	%
<3 months	546	76.9%
4-5 months	115	16.2%
6-7 months	20	2.8%
8 or more months	9	1.3%
Don't know/missing	20	2.8%
Total	**710**	**100%**

Table 32 Number of ANC Visits

	N	%
1	9	1.3%
2-3	70	9.9%
4+	600	84.5%
Don't know/missing	31	4.4%
Total	**710**	**100%**

Table 33 Days of Iron Supplementation

	N	%
>30 days	0	0%
30-89 days	164	27.2%
90 days	437	63.2%
>90 days	109	15.8%
Total	**710**	**100%**

Table 34 Delivery Location

	N	%
National Hospital	4	0.6%
Provincial Hospital	138	19.6%
Health Center	505	71.1%
Health Post	1	0.0%
Private Hospital	16	2.3%
Private Clinic	11	1.6%
Own Home	13	1.8%
Midwife/TBA's home	3	0.4%
Other	19	2.7%
Total	**710**	**100%**

Table 35 Source of Postnatal care

	N	%
Doctor/medical assistant	64	9.0%
Midwife	431	60.7%
Nurse	100	14.1%
Traditional birth attendant	2	0.3%
None	113	15.9%
Total	**710**	**100%**

Table 36 Birthweight (Mother's Recall)

	N	%
Very large	36	5.1%
Larger than average	250	35.5%
Average	336	47.7%
Smaller than average	69	9.8%
Very small	9	1.3%
Do not know/missing	6	0.6%
Total	**710**	**100%**

Table 37 Birth Weight (Recorded)

	N	%
<2.5kg	23	5.1%
2.5-3.5kg	352	78.7%
3.6-4.5kg	71	15.9%
>4.5kg	1	0.2%
Total	**447**	**100%**

Average (3.1) Minimum (1.5) Maximum (5)

Table 38 BMI Women of Reproductive Age

	N	%
<18.5 (thin)	33	14.8%
18.5-24.9 (normal)	148	66.4%
>25 (overweight)	36	16.1%
Missing	6	2.7%
Total	223	100%

Table 39 BMI Women of Reproductive Age, by Province

	Battambang		Siem Reap		Pursat		Total	
	N	%	N	%	N	%	N	%
Total Underweight <18.5	16	16.7%	10	6.8%	7	33.3%	33	14.8%
BMI <17	*2*	*2.1%*	*3*	*2.9%*	*2*	*9.5%*	*7*	*3.1%*
BMI 17-18.4	*14*	*14.6%*	*4*	*3.9%*	*3*	*14.3%*	*21*	*9.4%*
Normal Weight 18.5-24.9	58	60.4%	77	74.8%	13	61.9%	148	66.4%
Overweight >25	18	18.8%	17	16.5%	1	4.8%	36	16.1%
Missing	4	4.2%	2	1.9%	0	0.0%	6	2.7%
Total	96	100%	106	100%	21	100%	223	100%

Table 40 Prevalence of Anemia, Women of Reproductive Age

	N	%
Any anemia	90	41.5%
<7 g/dl severe anemia	*9*	*4.1%*
7-9.9g/dl moderate anemia	*19*	*8.8%*
10-11.9 g/dl mild anemia	*62*	*28.6%*
No anemia (≥12 g/dl)	127	58.5%
Total	217	100%

Table 41 Prevalence of Anemia, Pregnant Women

	N	%
Any anemia	97	52.4%
<9 g/dl severe anemia	*23*	*12.4%*
9-9.9g/dl moderate anemia	*20*	*10.8%*
10-10.9 g/dl mild anemia	*54*	*29.2%*
No anemia (≥11 g/dl)	88	47.6%
Total	185	100%

Table 42 Women's Dietary Diversity

	Battambang		Siem Reap		Pursat		Total	
	N	%	N	%	N	%	N	%
Staples (rice)	250	20.5%	268	22.2%	56	19.2%	574	21.1%
Beans, Nuts and Seeds	118	9.7%	119	9.9%	30	10.3%	267	9.8%
Cheese, yogurt or other milk products	71	5.8%	47	3.9%	13	4.5%	131	4.8%
Ducks or chicken eggs	87	7.1%	79	6.6%	28	9.6%	194	7.1%
Liver, kidney, heart or other organ meats	23	1.9%	25	2.1%	7	2.4%	55	2.0%
Flesh foods	242	19.9%	244	20.2%	57	19.5%	543	20.0%
Dark green leafy vegetables	156	12.8%	132	11.0%	44	15.1%	332	12.2%
Orange vegetables and fruits	107	8.8%	119	9.9%	24	8.2%	250	9.2%
Other fruits and vegetables	163	13.4%	172	14.3%	33	11.3%	368	13.6%
Total	1,217	100%	1,205	100%	292	100%	2,714	100%

Child Health and Nutrition Tables

Table 43 Timing of Child's Most Recent Visit to Health Center, by Province

	Battambang		Siem Reap		Pursat		Total	
	N	%	N	%	N	%	N	%
This month	58	17.6%	67	18.6%	9	12.0%	134	17.5%
1 month ago	39	11.8%	56	15.5%	9	12.0%	104	13.6%
2-3 months ago	116	35.2%	112	31.0%	33	33.3%	261	34.1%
4-5 months ago	37	11.2%	28	7.8%	10	13.3%	75	9.8%
6 months ago	11	3.3%	12	3.3%	4	5.3%	27	3.5%
Over 6 months	33	10.0%	39	10.8%	3	4.0%	75	9.8%
Don't remember/ missing	36	10.9%	47	13.0%	7	9.3%	90	11.7%
Total	**330**	**100%**	**361**	**100%**	**75**	**89%**	**766**	**100%**

Table 44 Services Received during Most Recent Visit to a Health Facility

	N	%	% of cases
Vaccination	623	34.9%	85.9%
GMP	336	18.8%	46.3%
Sick child care: medicine	335	18.8%	46.2%
Sick child care: IV	313	17.5%	43.2%
Counseling	155	8.7%	21.4%
Other	24	1.3%	3.3%
Total	**1,786**	**100%**	**246.3%**

Table 45 Prevalence of Anemia, Children, by Province

	Battambang		Siem Reap		Pursat		Total	
	N	%	N	%	N	%	N	%
Any anemia (<11 g/dl)	77	44.0%	65	82.3%	29	85.3%	170	59.4%
<7 g/dl severe anemia	*9*	*5.1%*	*2*	*2.5%*	*3*	*8.8%*	*14*	*4.9%*
7-9.9g/dl moderate anemia	*28*	*16.0%*	*31*	*39.2%*	*16*	*47.1%*	*75*	*26.0%*
10-10.9 g/dl mild anemia	*40*	*22.9%*	*32*	*40.5%*	*10*	*29.4%*	*81*	*28.5%*
No anemia (≥11 g/dl)	98	56.0%	14	17.7%	5	14.7%	117	40.6%
Total	**175**	**100%**	**79**	**100%**	**34**	**100%**	**287**	**100%**

Infant and Young Child Feeding Tables

Table 46 Breastfeeding Practices

	Ever Breastfed		Exclusive Breastfeeding	
	N	%	N	%
Yes	722	94.3%	298	77.8%
No	29	3.8%	85	22.2%
Do not know/missing	15	1.9%	--	--
Total	**766**	**100%**	**383**	**100%**

Table 47 Exclusive Breastfeeding among Children 0-5 Months, by Sex and Province

	Battambang		Siem Reap		Pursat		Total	
	N	%	N	%	N	%	N	%
Exclusive Breastfeeding	126	75.9%	142	79.8%	30	76.9%	298	**77.8%**
Girls	*59*	*74.7%*	*68*	*81.9%*	*15*	*78.9%*	*142*	*78.5%*
Boys	*67*	*77.0%*	*74*	*77.9%*	*15*	*75.0%*	*156*	*77.2%*
Non-Exclusive Breastfeeding	40	24.1%	36	22.2%	9	23.1%	85	**22.2%**
Girls	*20*	*25.3%*	*15*	*18.1%*	*4*	*21.1%*	*39*	*21.5%*
Boys	*20*	*23.0%*	*21*	*22.1%*	*5*	*25.0%*	*46*	*22.8%*
Total	**166**	**100%**	**178**	**100%**	**39**	**100%**	**383**	**100%**

Table 48 Liquids Other than Breastmilk Given, Children 0-5 Months

(Multiple answers)	N	%
Prelacteal feed	48	12.5%
Water	36	9.5%
Infant formula	35	9.2%
Milk	29	7.7%
Juice	1	0.3%
Soup broth	4	1.1%
Borbor	9	2.4%
Other liquids	14	3.7%
Vitamin drops or medicine	15	3.9%
Orasel	5	1.3%

Table 49 Times Breastfed in Past 24 Hours

	N	%
< 5 times	63	20.1%
5-10 times	143	45.5%
11-15 times	59	18.8%
> 15 times	49	15.6%
Total	**314**	**100%**

N	Minimum	Maximum	Mean	Std. Deviation
314	1	35	10.5	5.5945

Table 50 Duration of Breastfeeding

	N	%
< 5 minutes	104	33.9%
5-10 minutes	91	29.6%
11-15 minutes	37	12.1%
> 15 minutes	75	24.4%
Total	**307**	**100%**

N	Minimum	Maximum	Mean	Std. Deviation
307	0.5	60	12.9	10.897

Table 51 Children 6-59 Months Food Consumption, by Type of Food and Province

	Battambang (n=164)		Siem Reap (n=183)		Pursat (n=36)		Total (n=383)	
	N	%	N	%	N	%	N	%
Milk products	130	79.3%	133	72.7%	32	88.9%	295	77.0%
Grains (rice)	157	95.7%	163	89.1%	32	88.9%	356	91.9%
Vitamin A-rich fruits and veg.	57	34.8%	78	42.6%	9	25.0%	144	37.6%
Other fruits & veg.	106	64.6%	115	62.8%	18	50.0%	239	62.4%
Eggs	54	32.9%	62	33.9%	12	33.3%	128	33.4%
Animal source foods	126	76.8%	138	75.4%	21	58.3%	285	74.4%
Nuts	59	36.0%	47	25.7%	8	22.2%	114	29.8%

Table 52 Fish Consumption in Past 24 Hours

	Any fish consumed		Small Fish	
	N	%	N	%
6-8 months	5	20.8%	9	15.0%
9-11 months	20	52.6%	10	11.0%
12-23 months	89	64.5%	33	20.0%
24-59 months	180	41.5%	9	20.5%
Total	**294**	**46.4%**	**61**	**16.9%**

Table 53 Sweets and Packaged Snacks Consumption in Past 24 Hours

	Sweets		Packaged Snacks	
	N	%	N	%
Yes	147	42.5%	107	30.9%
No	192	55.5%	229	66.2%
Do not know	7	2.0%	10	2.9%
Total	**342**	**100%**	**346**	**100%**

Table 54 Feeding Practices During and After Fever 0-5 Month Olds

	Drink Given During Fever		Drink Given After Fever		Food Given During Fever		Food Given 1 Week After Fever	
	N	%	N	%	N	%	N	%
Much Less	4	1.5%	1	0.4%	1	0.4%	0	0.0%
Somewhat Less	42	16.1%	16	6.1%	20	7.6%	6	2.3%
About the Same	117	44.8%	127	48.5%	64	24.4%	68	26.0%
More	51	19.5%	56	21.4%	20	7.6%	27	10.3%
Much More	0	0.0%	3	1.1%	2	0.8%	0	0.0%
Never Gave	23	8.8%	46	17.6%	136	51.9%	144	55.0%
Do not know	25	9.2%	13	5.0%	19	7.3%	17	6.5%
Total	**262**	**100%**	**262**	**100%**	**262**	**100%**	**262**	**100%**

Table 55 Feeding Practices During and After Diarrhea 6-59 Month Olds

	Drink Given During Diarrhea		Drink Given After Diarrhea		Food Given During Diarrhea		Food Given 1 Week After Diarrhea	
	N	%	N	%	N	%	N	%
Much Less	5	1.5%	1	0.3%	27	8.3%	3	0.9%
Somewhat Less	45	13.8%	27	8.3%	97	29.7%	46	14.1%
About the Same	97	29.7%	185	56.6%	104	31.8%	174	53.2%
More	136	41.6%	85	26.0%	51	15.6%	67	20.5%
Much More	24	7.3%	8	2.4%	6	1.8%	2	0.6%
Stopped	1	0.3%	0	0.0%	3	0.9%	0	0.0%
Never Gave	0	0.0%	0	0.0%	20	6.1%	12	3.7%
Do not know	19	5.8%	21	6.4%	19	5.8%	23	7.0%
Total	**327**	**100%**	**327**	**100%**	**327**	**100%**	**327**	**100%**

Table 56 Feeding Practices During and After Fever 6-59 Month Olds

	Drink Given During Fever		Drink Given After Fever		Food Given During Fever		Food Given 1 Week After Fever	
	N	%	N	%	N	%	N	%
Much Less	7	2.1%	2	0.6%	18	5.5%	2	0.6%
Somewhat Less	98	30.0%	30	9.2%	135	41.3%	47	14.4%
About the Same	123	37.6%	210	64.2%	117	35.8%	195	59.6%
More	95	29.1%	72	22.0%	33	10.1%	64	19.6%
Much More	0	0.0%	0	0.0%	0	0.0%	5	1.5%
Never Gave	0	0.0%	0	0.0%	1	0.3%	1	0.3%
Do not know	1	0.3%	8	2.4%	8	2.4%	9	2.8%
Total	**324**	**100%**	**322**	**100%**	**312**	**100%**	**323**	**100%**

Table 57 Positive Stimulation in Past 3 Days, Children 0-23 Months, by Type of Caregiver

	Told stories		Sang songs		Took out		Played		Counted		Taught something New		Ask questions		Praise for learning new		Show affection	
Mother	33	8.6%	180	47.0%	188	49.1%	180	47.0%	54	14.1%	151	39.4%	152	39.7%	157	41.0%	246	64.2%
Father	5	1.3%	21	5.5%	38	9.9%	27	7.0%	11	2.9%	17	4.4%	11	2.9%	15	3.9%	13	3.4%
Grandmother	17	4.4%	31	8.1%	37	9.7%	42	11.0%	17	4.4%	26	6.8%	30	7.8%	35	9.1%	39	10.2%
Other	7	1.8%	21	5.5%	40	10.4%	64	16.7%	30	7.8%	20	5.2%	17	4.4%	8	2.1%	14	3.7%
No one	**276**	**72.1%**	**103**	**26.9%**	**53**	**13.8%**	**35**	**9.1%**	**230**	**60.1%**	**138**	**36.0%**	**134**	**35.0%**	**133**	**34.7%**	**37**	**9.7%**
Missing	45	11.7%	27	7.0%	27	7.0%	35	9.1%	41	10.7%	31	8.1%	39	10.2%	35	9.1%	34	8.9%
		100%		100%		100%		100%		100%		100%		100%		100%		100%

Table 58 Negative Discipline in Past 3 Days, Children 0-23 Months

	Hit		Yell or Criticize	
	N	%	N	%
Mother	109	28.5%	127	33.2%
Father	6	1.6%	6	1.6%
Grandmother	25	6.5%	20	5.2%
Other	8	2.1%	10	2.6%
No answers/Missing	30	7.8%	37	9.7%
No one	205	53.5%	183	47.8%
Total	**383**	**100%**	**383**	**100%**

Water, Sanitation and Hygiene (WASH) Tables

Table 59 Water Treatment before Drinking, by Method and Province

	Battambang		Siem Reap		Pursat		Total	
	N	%	N	%	N	%	N	%
Boil	331	56.6%	227	35.9%	66	50.0%	623	46.3%
Filter	43	7.4%	165	26.1%	6	4.5%	214	15.9%
Buy pure drinking water	41	7.0%	28	4.4%	7	5.3%	76	5.6%
Chlorine	1	0.2%	1	0.2%	0	0.0%	2	0.1%
Other	1	0.2%	0	0.0%	0	0.0%	1	0.1%
Nothing	166	28.6%	208	30.9%	53	39.8%	427	31.7%
Do not know/missing	0	0.0%	3	0.5%	0	0.0%	4	0.3%
Total	**583**	**100%**	**632**	**100%**	**132**	**100%**	**1347**	**100%**

Table 60 Water Treatment before Drinking among Caregivers, by Method and Age of Child

	Children under 2		Children under 5		Total	
	N	%	N	%	N	%
Boil	383	53.2%	13	29.5%	396	51.8%
Filter	97	13.5%	5	11.4%	102	13.4%
Buy pure drinking water	41	5.7%	3	6.8%	44	5.8%
Chlorine	2	0.3%	0	0.0%	2	0.3%
Nothing	197	27.4%	23	52.3%	220	28.8%
Total	**720**	**100%**	**44**	**100%**	**764**	**100%**

Table 61 Water Filter Cleaning

	N	%
Daily	24	11.2%
Every few days	86	40.2%
Weekly	68	31.8%
Monthly	12	5.6%
Every few months	8	3.7%
Don't remember/Missing	5	2.3%
Other	11	5.1%
Total	**214**	**100%**

Table 62 Water Filter Cleanliness (Observed)

	N	%
Looks clean	176	82.2%
Looks dirty	38	17.8%
Total	**214**	**100%**

Table 63 Water Storage after Treatment

	N	%
Not transferred (kept in treatment container)	538	58.3%
Transferred to a covered and/or sealed container	272	29.5%
Transferred to an uncovered and/or unsealed container	13	1.4%
Other	28	3.0%
Missing	72	7.8%
	923	**100%**

Table 64 Household Sanitation Facilities

	N	%
Improved, Not Shared Facility	499	37.0%
Improved Sanitation Coverage	**499**	**37.0%**
Shared	194	14.4%
Other	22	1.6%
Total Sanitation Coverage	**781**	**58.0%**
Non-improved Facility	654	46.9%
• Unimproved Facility	2	0.1%
• Shared Facility	64	5.0%
• Open Defecation	566	42.0%
Total	**1347**	**100%**

Table 65 Handwashing Place, by Province

	Battambang		Siem Reap		Pursat		Total	
	N	%	N	%	N	%	N	%
Observed	460	78.9%	463	73.3%	45	34.4%	968	73.8%
Not observed, not in dwelling/yard	110	18.9%	123	19.5%	79	60.3%	312	23.2%
Not observed, no permission to see	3	0.5%	4	0.7%	2	1.5%	9	0.7%
Not observed, other reason	5	0.9%	13	2.2%	5	3.8%	23	1.8%
Missing	5	0.9%	29	4.6%	1	0.8%	35	2.6%
Total	**583**	**100%**	**632**	**100%**	**132**	**100%**	**1347**	**100%**

Table 66 Handwashing Station Characteristics (Observation)

(Multiple answers n=1277)	N	% of cases
Water is available	923	95.4%
Soap or detergent is available	715	73.9%
Cleansing agent other than soap is available	18	1.9%
Near to platform	631	53.2%
Within 10 meters of a toilet	293	24.7%
Water is protected from contamination	99	8.3%
Water falls freely	254	21.4%

Table 67 Separate, Dedicated Handwashing Stations

	N	%
Tippy Tap	148	11.0%
Tippy Tap with soap	437	32.4%
Happy Tap	11	0.8%
Happy Tap with soap	11	0.8%
Other	137	10.2%
No separate handwashing station	603	44.8%
Total	**1347**	**100%**

Table 68 Child Stool Disposal, by Province

	Battambang		Siem Reap		Pursat		Total	
	N	%	N	%	N	%	N	%
Child use toilet or latrine	19	5.8%	11	3.1%	1	1.3%	31	4.1%
Put/rinsed into toilet or latrine	54	16.6%	51	14.5%	8	10.7%	113	15.0%
Buried	88	27.0%	181	51.6%	36	48.0%	305	40.6%
Total Hygienic Disposal	*161*	*49.4%*	*243*	*69.2%*	*45*	*60.0%*	*449*	*59.7%*
Put/rinsed into drain or ditch	4	1.2%	4	1.1%	0	0.0%	8	1.1%
Thrown into garbage	19	5.8%	2	0.6%	0	0.0%	21	2.8%
Left in the open	58	2.5%	68	3.7%	28	5.3%	154	20.5%
Other	84	25.8%	34	9.7%	2	2.7%	120	16.0%
Total	**326**	**100%**	**351**	**100%**	**75**	**100%**	**752**	**100%**

Agriculture Tables

Table 69 Percentage who Grow Food at Home

	Battambang		Siem Reap		Pursat		Total	
	N	%	N	%	N	%	N	%
Yes observed	482	82.7%	458	73.2%	59	42.8%	999	74.2%
Yes not observed	10	1.7%	38	6.1%	13	9.4%	61	4.5%
No	86	14.8%	127	20.3%	60	43.5%	273	20.3%
Missing	5	0.9%	3	0.5%	6	4.3%	14	1.0%
Total	**583**	**100%**	**626**	**100%**	**138**	**100%**	**1347**	**100%**

Table 70 Vegetables Grown at Home, by Province

	Battambang		Siem Reap		Pursat		Total	
	N	%	N	%	N	%	N	%
Amaranth	178	16.5%	147	13.6%	23	2.1%	348	32.3%
Yard-long bean	60	5.6%	89	8.3%	10	.9%	159	14.8%
Moringa	143	13.3%	95	8.8%	17	1.6%	255	23.7%
Pumpkin	131	12.2%	146	13.6%	26	2.4%	303	28.1%
Sweet potato	120	11.1%	133	12.3%	19	1.8%	272	25.3%
Total	**632**	**100%**	**610**	**100%**	**95**	**100%**	**1337**	**100%**

Table 71 Use of Vegetables Grown

(Multiple answers n=1,347)	**N**	**%**	**% of cases**
Other	19	.9%	1.8%
Eat	1054	49.6%	98.7%
Sell	177	8.3%	16.6%
Give to family and friends	341	16.0%	31.9%
Give to neighbors	486	22.9%	45.5%
Give to animals	34	1.6%	3.2%
Throw away	14	.7%	1.3%

ANNEX III: Questionnaires

QUESTIONNAIRE ID#_____

Caregivers of Children Birth-59 Months

IDENTIFICATION
PROVINCE. . . . . . DISTRICT . . . . . . COMMUNE. . . . . . VILLAGE. . . . . . CLUSTER NUMBER . . . . . . HOUSEHOLD CODE . . . . .

HOUSEHOLD VISITS	
DATE INTERVIEWER'S NAME AND CODE SUPERVISOR NAME AND CODE	. . . .
TIME INTERVIEW STARTED	
TIME INTERVIEW COMPLETED	

Hello. My name is _____. I am working with the NOURISH Project to conduct a survey about nutrition in Cambodia. The information we collect will help to plan services for villages like yours. You were selected for the survey. I would like to ask you some questions. The questions usually take about 1 hour. READ THE CONSENT FORM.

SIGNATURE OF INTERVIEWER: _____ DATE: _____

RESPONDENT AGREES TO BE INTERVIEWED 1
RESPONDENT DOES NOT AGREE TO BE INTERVIEWED . . . . 2 END

Do you have any questions?

May I begin the interview now?

Ask the woman to bring the child's Yellow Health Card and birth certificate, and the family ID Poor Card (if she has one).

I. BASIC INFORMATION

QUESTION	RESPONSE
1. IN WHAT MONTH AND YEAR WERE YOU BORN? *IF DON'T KNOW, KHMER MONTH AND YEAR BORN?* 2. HOW OLD WERE YOU AT YOUR LAST BIRTHDAY?	Gregorian Month _____ Gregorian Year ___ ___ ___ ___ Don't Know .....88 _____ _____ Years
3. HAVE YOU EVER ATTENDED SCHOOL? 4. WHAT IS THE HIGHEST LEVEL OF SCHOOL YOU ATTENDED?	Yes . . . . . 1 No . . . . . 2 SKIP TO Q5 Don't Know . . . . . .88 Primary (1-6) . . . . 1 Lower Secondary (7-9) . . . . . . 2 Upper Secondary (10-12)..... 3 Higher. . . . . .4 No Answer. 99
5. HAVE YOU EVER BEEN MARRIED?	Yes . . . . . 1 No . . . . . 2 SKIP TO Q14 Don't Know 88
6. WHAT IS YOUR MARITAL STATUS NOW?	Married . . . . . 1 Widowed. . . . . 2 Divorced . . . . . 3 No Answer 99
7. DID YOUR (LAST) (HUSBAND/PARTNER) EVER ATTEND SCHOOL? 8. WHAT IS THE HIGHEST LEVEL OF SCHOOL HE ATTENDED?	Yes . . . . . 1 No . . . . . 2 SKIP TO Q9 Don't Know . . . . . 88 Primary (1-6) . . . . 1 Lower Secondary (7-9) . . . . . .2 Upper Secondary (10-12)..... 3 Higher. . . . . 4 No answer. 99
9. HOW OLD IS YOUR (LAST) (HUSBAND/PARTNER)?	Under 20. . . . . 1 20-29. . . . . 2 30-39. . . . . 3 40-49. . . . . 4 50-59. . . . . 5 60 or over . . . . . 6 Don't Know 88
10. WHAT IS YOUR (HUSBAND'S) OCCUPATION? THAT IS, WHAT KIND OF WORK DOES HE MAINLY DO?	Farmer . . . .1 Factory . . . .2 Retail . . . .3 Motor taxi.....4 Construction .....5 Teacher or official.....6 Unemployed..... ...7 Daily labor, irregular ..... 8 Other _____ 00 Don't Know 88
11. DOES YOUR HUSBAND WORK IN THIS VILLAGE?	Yes . . . . 1 SKIP TO Q14

QUESTION	RESPONSE
	No . . . . . 2 No answer. 99
12. DOES YOUR HUSBAND WORK IN CAMBODIA OR OVERSEAS?	In Cambodia . . . . . 1 Thailand . . . . . 2 Other _____ 00 Don't know 88
13. IF YOUR HUSBAND HAS WORKED OVERSEAS, WHEN WAS THIS?	Now . . . . . 1 Earlier this year . . . . . 2 Last year . . . . . 3 1-3 years ago . . . . . 4 Over 3 years ago . . . . . 5 Don't know 88
14. WHAT IS YOUR OCCUPATION? THAT IS, WHAT KIND OF WORK DO YOU MAINLY DO?	Farmer . . . . . 1 Factory . . . . . 2 Retail . . . . . 3 Motor taxi . . . . . 4 Construction . . . . . 5 Teacher or official . . . . . 6 Unemployed . . . . . 7 Housewife/ mother . . . . . 8 Daily labor, irregular . . . . . 9 Other _____ 00 Don't Know 88
15. DOES YOUR FAMILY HAVE AN ID POOR CARD? *(Request to observe the card.)*	Yes observed. . . . . 1 Yes not observed . . . . . 2 Yes expired . . . . . 3 No . . . . . 4 SKIP TO Q.17 Don't know . . . . . 88 No answer.. 99
16. ARE YOU ENROLLED IN A CCT PROGRAM FOR HEALTH AND NUTRITION?	Yes . . . . . 1 No . . . . . 2 Don't know 88
17. DO YOU HAVE YOUR OWN BANK ACCOUNT?	Yes . . . . . 1 No . . . . . 2 SKIP TO Q.19 Don't know 88
18. IF YOU HAVE YOUR OWN BANK ACCOUNT, WHICH BANK?	AMK . . . . . 1 WING . . . . . 2 ACLEDA. . . . . 3 Other _____ 99 Don't know.. 88
19. DOES YOUR HOUSEHOLD GROW ANY FOOD AT HOME FOR CONSUMPTION? *Request to see the garden.*	Yes Observed. . . . . 1 Yes Not Observed . . . . . 2 No . . . . . 3 SKIP TO Q.25 Don't Know 88
20. IF YOUR HOUSEHOLD GROWS ANY FOOD IN THE HOME COMPOUND, WHAT DO YOU GROW? (CIRCLE ALL GROWN AT DIFFERENT TIMES OF THE YEAR.)	Ptee (Amaranth) . . . . . 1 Moringa. . . . . 2 Pumpkin . . . . . 3 Sweet Potato . . . . . 4 Long Bean 5

QUESTION	RESPONSE
	Jackfruit. . . . . 6 Mango. . . . . 7 Banana . . . . . .8 Other _____ 00 Don't know 88
21. IF YOUR HOUSEHOLD GROWS FOOD AT HOME, WHAT DO YOU DO WITH THE PRODUCE? *(Circle all answers given).*	Eat . . . . . 1 Sell. . . . . 2 Give to family and friends. . . . . 3 Give to neighbors. . . . . .4 Give to animals . . . . . 5 Throw away. . . . . 6 Other _____ 00 Don't know 88
22. IF YOU SELL SOME, HOW MUCH MONEY DO YOU MAKE FROM SELLING THESE EACH YEAR?	_____ Riel
[Ask only if she grows amaranth, yardlong bean, moringa, or sweet potato in #18. If not, SKIP TO Q25] 23. HOW MUCH OF _____ THAT YOU GROW DID YOUR HOUSEHOLD EAT IN THE PAST WEEK?	Bunch 1/2 kilo 1 kilo 2-5 kilos More Amaranth 1 2 3 4 5 Moringa 1 2 3 4 5 Sweet potato 1 2 3 4 5 Long bean 1 2 3 4 5
[Ask only if she grows amaranth, yardlong bean, moringa, or sweet potato in #18. If not, SKIP TO Q25] 24. WHO EATS THE PRODUCE USUALLY? *(Read answers and circle all answers given).*	Men . . . . . .1 Women . . . . . 2 Pregnant women. . . . . .3 Children over 1 year . . . . . .4 Children 1 year – 2 years. . . . .5 Children over 2 years . . . .6 Other _____ 00 Don't know 88
25. NOW I WOULD LIKE TO ASK ABOUT ALL THE BIRTHS YOU HAVE HAD DURING YOUR LIFE. HAVE YOU EVER GIVEN BIRTH?	Yes . . . . . 1 No . . . . . 2 No Answer 99
26. ARE YOU PREGNANT NOW?	Yes . . . . . .1 SKIP TO Q.31 No . . . . . 2 Don't know . . . . . 88 No Answer.. 99
27. HAVE YOU BEEN PREGNANT IN THE PAST 12 MONTHS?	Yes . . . . . .1 No . . . . . 2 SKIP TO Q.31 No answer.. 99
28. WAS IT FULL TERM PREGNANCY?	Yes . . . . . .1 No . . . . . 2 No answer.. 99
29. HOW MUCH WEIGHT DID YOUR HEALTH WORKER ADVISE YOU TO GAIN DURING PREGNANCY?	Less than 10 kg. . . . . .1 10-12.0 kg . . . . . 2 12.1- 14.9kg . . . . . 3 14.9-17.9 kg . . . . . 4 18 kg or more. . . . . 5 Never advised . . . . . 6 None . . . . . .7 Don't remember. 88

QUESTION	RESPONSE
30. HOW MUCH WEIGHT DID YOU GAIN DURING PREGNANCY?	Less than 10 kg. . . . . 1 10-12.0 kg . . . . . 2 12.1- 14.9kg . . . . . 3 14.9-17.9 kg . . . . . 4 18 kg or more. . . . . 5 Never weighed . . . . . 6 None . . . . . 7 Don't remember 88
31. HOW MANY CHILDREN DO YOU CARE FOR UNDER 5 YEARS OF AGE? *If 0, end the interview. If 1 or more, continue.*	__ __
32. WHAT IS YOUR RELATIONSHIP WITH EACH CHILD?	# children Mother . . . . . 1 _____ Father . . . . . 2 _____ Aunt . . . . . 3 _____ Grandmother . . . . . 4 _____ Grandfather. . . . . 5 _____ Sister. . . . . 6 _____ Don't know . . . . . 88 _____ No Answer.. . . . . 99 _____
33. FOR THE REST OF THIS INTERVIEW WE CAN TALK ABOUT **ONE CHILD** [SPECIFY AGE NEEDED] WHO IS AT HOME NOW. IF YOU HAVE TWINS, PLEASE PICK ONE. WHAT IS THE CHILD'S NAME?	_____
34. WHAT DATE WAS {*child's name*} BORN? *Verify with yellow child health card.*	Gregorian (French) Month _____ Gregorian (French) Year ___ ___ ___ ___ Don't Know 88
35. WHAT IS [*child's name*]'S SEX?	Female. . . . . 1 Male…. 2
36. DOES [*child's name*] HAVE A BIRTH CERTIFICATE?	Yes Observed. . . . . 1 Yes Not Observed . . . . . 2 No . . . . . 3 Don't Know 88

II. WOMEN'S HEALTH CARE

QUESTION	RESPONSE
Continue if mother is interviewed. *SKIP to Q 50 if grandmother or father is interviewed as main caregiver of child.*	
37. WHERE DID YOU RECEIVE ANTENATAL CARE FOR YOUR MOST RECENT PREGNANCY?	**Home** Your home . . . . . 1 Midwife/TBA home. . . . . 2 Other home . . . . . 3 **Public** Natl hosp (pp) . . . . . .4 Provincial hosp. . . . . 5 Hlth center. . . . . 6 Hlth post . . . .7 Outreach . . . . . 8 Military hosp. . . . . 9 Other _____ 00 **Private** Priv. Hosp . . . . . 10 Priv. Clinic . . . . . 11 Other private. 12
38. HOW MANY MONTHS PREGNANT WERE YOU WHEN YOU ***FIRST*** RECEIVED ANTENATAL CARE FOR THIS PREGNANCY?	Months ___ ____ Don't know ……88
39. HOW MANY TIMES DID YOU RECEIVE ANTENATAL CARE DURING THIS PREGNANCY?	No. Times ___ ___ Don't know ……88
40. AS PART OF YOUR ANTENATAL CARE DURING THIS PREGNANCY, WERE ANY OF THE FOLLOWING DONE?	Yes No Were you weighed? WEIGHT . . . 1 2 Was your height taken? HEIGHT . . . 1 2 Was your blood pressure measured? BP . . . . . .1 2 Did you give a urine sample? URINE . . . 1 2 Did you give a blood sample? BLOOD . . 1 2 Given advice on weight gain in pregnancy? 1 2 Given advice on food to eat in pregnancy? 1 2
41. DURING THIS PREGNANCY, WERE YOU GIVEN OR DID YOU BUY ANY IRON TABLETS OR IRON SYRUP?	Yes . . . . . 1 No . . . . . 2 Don't know 88
42. DURING THE WHOLE PREGNANCY, FOR HOW MANY DAYS DID YOU TAKE THE TABLETS OR SYRUP?	Days ____ ___ ____ Don't know 88
43. WHERE DID YOU GIVE BIRTH?	**Home** Your home . . . . . 1 Midwife/TBA home. . . . . .2 Other home . . . . . 3 **Public** Natl hosp (pp) . . . . 4 Provincial hosp. . . . . .5 Hlth center. . . . . 6 Hlth post . . . . . .7 Outreach . . . .8 Military hosp. . . . . 9 Other _____99 **Private** Priv. Hosp . . . . . 10 Priv. Clinic . . . . . 11 Other private. 12

QUESTION	RESPONSE
NOW, LET'S TALK AGAIN ABOUT [*child's name*].	Very large 1

44. WHEN (*child's name*) WAS BORN, WAS HE/SHE VERY LARGE, LARGER THAN USUAL/AVERAGE, USUAL/AVERAGE, SMALLER THAN USUAL/AVERAGE, OR VERY SMALL?	Larger than average . .. . ….. 2 Average . . . . 3 Smaller than average . . ….. 4 Very small . . . . 5 Don't know 88
45. WAS (*child's name*) WEIGHED AT BIRTH?	Yes . . . . 1 No . . . . 2 Don't know . . . ….....88
46. HOW MUCH DID (*child's name*) WEIGH?	A. Kg from card ___ ____kg B. Kg from recall ___ ____kg Don't know . . . . ……. 88
47. AFTER YOU GAVE BIRTH TO (*child's name*), DID ANYONE CHECK ON YOUR HEALTH?	Yes . . . . 1 No . . . . 2 Don't know . . . ….88
48. WHO CHECKED ON YOUR HEALTH AT THAT TIME? *Probe for most qualified person; circle one—the most qualified.*	**Health personnel** Doctor/medical assistant . . . . . 1 Midwife . . . . . 2 Nurse . . . . .3 **Other person** Traditional birth attendant.. . . . . 4 Other _____99 (specify) Don't know.. 88
49. HOW LONG AFTER DELIVERY DID THE FIRST CHECK TAKE PLACE?	HOURS __ ____ DAYS ___ ____ WEEKS ___ ___ Don't know.. 88

III. HYGIENE AND SANITATION

QUESTION	RESPONSE
50. DO YOU DO ANYTHING TO THE WATER TO MAKE IT SAFER TO DRINK?	Yes . . . . . .I No . . . . . 2 SKIP TO Q54 Don't Know 88
51. WHAT DO YOU USUALLY DO TO MAKE THE WATER SAFER TO DRINK? (*Confirm by observation*)	Boil . . . .I SKIP TO Q53 Filter . . . . . 2 Chlorine . . . . . 3 SKIP TO Q53 Nothing . . . . . 4 SKIP TO Q54 Other _____99 SKIP TO Q54 No answer . . . . . 00 Based on answer above: Water treatment device observed . . . . 1 Water treatment device not observed. 2
52. HOW OFTEN IS THE FILTER CLEANED? (*Confirm by observation*)	Daily . . . . . 1 Weekly . . . . . 2 Monthly . . . . . 3 Every few months. . . . . .4 Every year . . . . . .5 Do not remember. 9

QUESTION	RESPONSE
	Other _____99 Observed: Filter looks clean . . . . . 1 Filter looks dirty. 2
53. PLEASE SHOW ME WHAT HAPPENS TO THE WATER AFTER TREATED.	Transferred to a covered, sealed, clean container. . 1 Transferred to a an uncovered/unsealed, dirty container…… 2 Kept in the container where it was boiled …… 3
54. WHAT KIND OF TOILET FACILITY DO MEMBERS OF YOUR HOUSEHOLD USUALLY USE? (*Confirm by observation*)	**Flush or pour flush toilet** Flush to piped sewer system . . . . . .1 Flush to septic tank . . . . . 2 Flush to pit latrine . . . . . 3 Flush to somewhere else . . . . . .4 Flush, don't know where . . . . . .5 **Pit latrine** Ventilated improved pit latrine .. . . . .6 Pit latrine with slab . . . . . 7 Pit latrine without slab/ open pit . . . 8 Composting toilet . . . . . 9 Bucket toilet . . . . . 10 Hanging toilet/hanging latrine . . . . . 11 No facility/bush/field . . . . . 12 SKIP TO Q57 Use another person/family's latrine…13 SKIP TO Q56 Other _____00 (SPECIFY) *Answer above is confirmed by observation* Observed . . . . 1 Not observed 2
55. DO YOU SHARE YOUR TOILET FACILITY WITH OTHER HOUSEHOLDS?	Yes . . . . . 1 No . . . . . 2 SKIP TO Q57 Don't Know 88
56. HOW MANY HOUSEHOLDS USE THIS TOILET FACILITY?	Number ____ ____ ____ Don't know 88
57. THE LAST TIME (*child' name*) PASSED STOOLS IN THE PAST 24 HOURS, WHAT WAS DONE TO DISPOSE OF THE STOOLS? (*Confirm by observation.*)	Child used toilet or latrine . . . . . 1 Put/rinsed into toilet or latrine . . . . . 2 Put/rinsed into drain or ditch . . . . . 3 Thrown into garbage . . . . 4 Buried . . . . 5 Left in the open . . . . 6 Other _____99 (specify) Observed stools in hole, drain or ditch . .. . . … 1 Did not observe stools in hole, drain or ditch… 2
58. PLEASE SHOW ME WHERE MEMBERS OF YOUR HOUSEHOLD MOST OFTEN WASH THEIR HANDS.	Observed . . . . 1 Not observed, not in dwelling/yard/plot . ... 2 Not observed, no permission to see . . . . . 3 Not observed, other reason . . . . . 4 [Note: anal cleansing water inside toilet is not considered hand washing station]

QUESTION	RESPONSE
59. **OBSERVATION ONLY**: OBSERVE PRESENCE OF WATER AT THE SPECIFIC PLACE FOR HANDWASHING.	Water is available . . . . . 1 Water is not available 2
60. **OBSERVATION ONLY**: OBSERVE PRESENCE OF SOAP, DETERGENT, OR OTHER CLEANSING AGENT.	Soap or detergent (bar, liquid, powder) . . .. 1 Ash, mud, sand . . . . . 2 None. 3
61. **OBSERVATION ONLY**: OBSERVE HANDWASHING STATION *(Circle all observed)*	Near to platform (feeding/eating) place. . … 1 Within 10 meters of the toilet ……2 Water is protected from contamination by people and animals …..…….3 Water falls freely (not ladled by one hand). 4
62. **OBSERVATION ONLY**: OBSERVE PRESENCE OF A SEPARATE HANDWASHING STATION	Tippy Tap ….. . . . . 1 Tippy Tap with soap . . . . . .2 Happy Tap . . . . . 3 Happy Tap with soap . . . . . 4 No separate handwashing station . . . . . 5 Other: _____99
63. **OBSERVATION ONLY**: OBSERVE WHETHER FLIES ARE KEPT OFF FOOD BEING PREPARED OR STORED	Flies are kept off food . . . . . 1 Flies are not kept off food. . . . . 2 No food observed 3
64. **OBSERVATION ONLY**: OBSERVE WHETHER CHICKENS ARE CONTAINED, KEPT AWAY FROM WHERE CHILD IS SITTING, PLAYING OR EATING	Chickens are contained . . . . . .1 Chickens are not contained. . . . . .2 No chickens observed 3
65. **OBSERVATION ONLY**: OBSERVE WHETHER THERE IS FECES AROUND THE HOUSEHOLD (animal or humans-children) *(Circle all observed.)*	Animal feces observed . . . . . .1 Child feces observed. . . . . .2 No feces observed 3

IV. CHILD'S ILLNESS

QUESTION	RESPONSE
Let's continue to talk about the same child under 2 years you told me about earlier. Let's talk about this child's health. 66. WHEN WAS THE LAST TIME THIS CHILD VISITED THE HEALTH CENTER? 67. WHAT SERVICES DID THE CHILD RECEIVE DURING THAT VISIT? (circle all mentioned).	_____ MONTH _____ YEAR Don't remember . . . . . .99 Vaccination . . . . . .1 Medicine…. . . . . 2 IV……... . . . . .3 Weighing … . . . . . 4 Counseling. . . . . 5 Don't remember . . . . . .99 Other _____00
May I see the Yellow Child Health Card? 68. **OBSERVATION ONLY**: WHEN IS THE LAST MONTH THE CHILD'S WEIGHT WAS PLOTTED ON THE YELLOW CHILD HEALTH CARD?	_____ MONTH

QUESTION	RESPONSE
69. THE LAST TIME (child's name) WAS ILL, DID YOU GET A REFERRAL TO THE PUBLIC HEALTH CENTER OR HOSPITAL?	Yes . . . . . 1 No . . . . . 2 SKIP TO Q71 Don't Know 88
70. WHO REFERRED THE CHILD? *(no need to mark if self or family decision)*	Health worker. . . . . 1 Village Chief or Deputy . . . . . 2 VHSG . . . . 3 Neighbor. . . . . 4 Other_____ 00 Don't Know 88
71. NOW I WOULD LIKE TO KNOW HOW MUCH (*child's name*) WAS GIVEN TO DRINK DURING THE DIARRHEA (INCLUDING BREASTMILK) *If Less, probe: Was s/he given much less than usual to drink or somewhat less?*	Much Less…. . . . . 1 Somewhat Less . . . . . 2 About The Same. . . . . 3 More…. . . . . 4 Much More . . . . . 5 Stopped …….. . . . . .6 Never gave…….. . . . . .7 Don't Know…. 88
72. WHEN (*child's name*) HAD DIARRHEA, WAS HE/SHE GIVEN LESS THAN USUAL TO EAT, ABOUT THE SAME AMOUNT, MORE THAN USUAL, OR NOTHING TO EAT? *If Less, probe: much less than usual to eat or somewhat less?*	Much Less…. . . . . 1 Somewhat Less . . . . . 2 About The Same. . . . . 3 More…. . . . . 4 Much More . . . . . 5 Stopped …….. . . . . .6 Never gave…….. . . . . .7 Don't Know…. 88
73. DURING <u>THE WEEK AFTER</u> THE DIARRHEA, HOW MUCH (*child's name*) WAS GIVEN TO DRINK? (INCLUDING BREASTMILK) *If Less, probe: much less than usual to drink or somewhat less?*	Much Less…. . . . . 1 Somewhat Less . . . . . 2 About The Same. . . . . 3 More…. . . . . 4 Much More . . . . . 5 Stopped …….. . . . . .6 Never gave…….. . . . . .7 Don't Know…. 88
74. DURING <u>THE WEEK AFTER</u> THE DIARRHEA, WAS HE/SHE GIVEN LESS THAN USUAL TO EAT, ABOUT THE SAME AMOUNT, MORE THAN USUAL, OR NOTHING TO EAT? *If Less, probe: much less than usual to eat or somewhat less?*	Much Less…. . . . . 1 Somewhat Less . . . . . 2 About The Same. . . . . 3 More…. . . . . 4 Much More . . . . . 5 Stopped …….. . . . . .6 Never gave…….. . . . . .7 Don't Know…. 88
75. IN THE LAST TWO WEEKS, HAS (*child's name*) BEEN ILL WITH A FEVER AT ANY TIME?	Yes . . . . . 1 No . . . . . 2 Don't Know 88
76. HOW DID YOU KNOW (*child's name*) HAD A FEVER?	Felt head . . . . . 1 Took temperature . . . . . 2 Pharmacist diagnosed . . . . . 3 Health center diagnosed. . . . . 4 Other _____ 00 Don't remember. 99
77. NOW I WOULD LIKE TO KNOW HOW MUCH (*child's name*) WAS GIVEN TO DRINK DURING THE ILLNESS? (INCLUDING BREASTMILK) *If Less, probe: much less than usual to drink or somewhat less?*	Much Less……. . . . . .1 Somewhat Less. . . . . 2 About The Same. . . . . 3 More…. . . . . 4 Nothing To Drink…. . . . . .5 Don't Know……. 88

QUESTION	RESPONSE
78. DURING THE ILLNESS, WAS HE/SHE GIVEN LESS THAN USUAL TO EAT, ABOUT THE SAME AMOUNT, MORE THAN USUAL, OR NOTHING TO EAT? *If Less, probe: much less than usual to eat or somewhat less?*	Much Less…. . . . . 1 Somewhat Less . . . . . 2 About The Same. . . . . 3 More…. . . . . 4 Much More . . . . . 5 Stopped …….. . . . . .6 Never gave..... . . . . .7 Don't Know…. 88
79. DURING THE WEEK AFTER THE ILLNESS, HOW MUCH (*child's name*) WAS GIVEN TO DRINK? (INCLUDING BREASTMILK) *If Less, probe: much less than usual to drink or somewhat less?*	Much Less…. . . . . 1 Somewhat Less . . . . . 2 About The Same. . . . . 3 More…. . . . . 4 Much More . . . . . 5 Stopped …….. . . . . .6 Never gave..... . . . . .7 Don't Know…. 88
80. DURING THE WEEK AFTER THE ILLNESS, WAS HE/SHE GIVEN LESS THAN USUAL TO EAT, ABOUT THE SAME AMOUNT, MORE THAN USUAL, OR NOTHING TO EAT? *If Less, probe: much less than usual to eat or somewhat less?*	Much Less…. . . . . 1 Somewhat Less . . . . . 2 About The Same. . . . . 3 More…. . . . . 4 Much More . . . . . 5 Stopped …….. . . . . .6 Never gave..... . . . . .7 Don't Know…. 88

V. CHILD'S WEIGHT AND HEIGHT

CHILDREN UNDER 24 MONTHS SHOULD BE MEASURED LYING DOWN; CHILDREN 24 MONTHS OR OLDER SHOULD BE MEASURED STANDING UP.	81. **Weight 1: kg** __ __. __ **Weight 2: kg** __ __. __ Z score- to determine underweight, wasting _____

	82. **Height in cm** __ __ __. __ Z score- to determine stunting, wasting _____

VI. ANEMIA

As part of this survey, we are asking people all over the province to take an anemia test. Anemia is a serious health problem that usually results from genetic disorder, poor nutrition, infection, or chronic disease. We ask that children 6 months through 5 years old take part in anemia testing in this survey and give a few drops of blood from a finger or heel. The equipment used to take the blood is clean and completely safe. It has never been used before and will be thrown away after each test. The blood will be tested for anemia immediately, and the result will be told to you right away. The result will be kept strictly confidential and will not be shared with anyone other than members of our survey team. Do you have any questions?

You can say yes to the test, or you can say no. It is up to you to decide.

Will you allow (NAME OF CHILD) to participate in the anemia test?

Yes No

CIRCLE RESPONSE AND GET SIGNATURE/MARK IF YES

Signature or Thumb Print: _____

83. **GRAMS PER DECILITER** __ __ . __

VII. CHILD FEEDING

QUESTION	RESPONSE
84. WAS [*child's name*] EVER BEEN BREASTFED?	Yes . . . . . 1 No . . . . . 2 SKIP TO Q92 Don't Know 8
85. HOW LONG AFTER BIRTH DID YOU FIRST PUT (*child's name*) TO THE BREAST? *IF LESS THAN 1 HOUR, RECORD '00' HOURS. IF LESS THAN 24 HOURS, RECORD HOURS. OTHERWISE, RECORD DAYS.*	Minutes ___ ___ Hours ___ ___ Days ___ ___ Don't Know 88
86. IN THE FIRST THREE DAYS AFTER DELIVERY, WAS (*child's name*) GIVEN ANYTHING OTHER THAN BREAST MILK SUCH AS CHHEU EM?	Yes . . . . . 1 No . . . . . 2 Don't Know 88
87. IF [*child's name*] WAS BREASTFED EVER, IS S/HE STILL BREASTFEEDING SOMETIMES?	Yes . . . . . 1 No . . . . . 2 SKIP TO Q92 Don't Know 88
88. WAS [*child's name*] BREASTFED YESTERDAY DURING THE DAY OR AT NIGHT?	Yes . . . . . 1 No . . . . . 2 Don't Know 88
89. IF [child's name] BREASTFED YESTERDAY, HOW MANY TIMES?	___ ___
90. IF [child's name] BREASTFED YESTERDAY HOW LONG IS THE USUAL FEEDING?	____ ___ *MIN*
Sometimes babies are fed breast milk in different ways, for example by spoon, cup, or bottle. This can happen when the mother cannot always be with her baby. Sometimes babies are breastfed by another woman or given breast milk from another woman by spoon, cup, bottle, or some other way. This can happen if a mother cannot breastfeed her own baby. 91. DID [CHILD'S NAME] CONSUME BREAST MILK IN ANY OF THESE WAYS YESTERDAY DURING THE DAY OR AT NIGHT?	Yes . . . . . 1 No . . . . . 2 Don't Know 88
Next I would like to ask you about some liquids that [child's name] may have had yesterday during the day or at night. 92. PLAIN WATER	Yes . . . . . 1 No . . . . . 2 SKIP TO Q94 Don't Know 88
93. HOW MANY TIMES YESTERDAY DURING THE DAY OR AT NIGHT DID [*child's name*] CONSUME WATER?	___ ___
94. INFANT FORMULA	Yes 1

	No . . . . . 2 SKIP TO Q96 Don't Know 88
95. HOW MANY TIMES YESTERDAY DURING THE DAY OR AT NIGHT DID [*child's name*] CONSUME FORMULA?	___ ___
96. DID [*child's name*] HAVE ANY MILK SUCH AS TINNED CONDENSED, POWDERED, OR FRESH MILK?	Yes . . . . . 1 No . . . . . 2 SKIP TO Q98 Don't Know 88
97. HOW MANY TIMES YESTERDAY DURING THE DAY OR NIGHT DID [*child's name*] CONSUME MILK?	___ ___
98. DID [*child's name*] HAVE ANY JUICE?	Yes . . . . . 1 No . . . . . 2 Don't Know 88
99. PLAIN SOUP BROTH?	Yes . . . . . 1 No . . . . . 2 Don't Know 88
100. BORBOR?	Yes . . . . . 1 No . . . . . 2 Don't Know 88
101. ANY OTHER LIQUIDS?	Yes . . . . . 1 No . . . . . 2 Don't Know 88
Now I would like to ask you about some medicines and vitamins that are sometimes given to infants. 102. WAS [*child's name*] GIVEN ANY VITAMIN DROPS OR OTHER MEDICINES AS DROPS YESTERDAY DURING THE DAY OR AT NIGHT?	Yes . . . . . 1 No . . . . . 2 Don't Know 88
103. WAS [*child's name*] GIVEN ORASEL YESTERDAY DURING THE DAY OR AT NIGHT?	Yes . . . . . 1 No . . . . . 2 Don't Know 88

Check age of child: ☐ Child age over 6-23 months ⇨ *Continue with this module.* ☐ Child age over 23 months ⇨ End Interview.	
QUESTION	
104. WAS [*child's name*] EVER BREASTFED?	Yes . . . . . 1 No . . . . . 2 Don't Know 88
105. PLEASE DESCRIBE EVERYTHING THAT [*child's name*] ATE YESTERDAY DURING THE DAY OR NIGHT, WHETHER AT HOME OR OUTSIDE THE HOME. A) THINK ABOUT WHEN [*child's name*] FIRST WOKE UP YESTERDAY. DID [*child's name*] EAT ANYTHING AT THAT TIME? IF YES: Please tell me everything [child's name] ate at that time. PROBE: Anything else? UNTIL RESPONDENT SAYS NOTHING ELSE. THEN CONTINUE TO PART B). IF NO, CONTINUE TO PART B). B) WHAT DID [*child's name*] EAT NEXT? IF YES: Please tell me everything [*child's name*] ate at that time. PROBE: Anything else? REPEAT UNTIL RESPONDENT SAYS NOTHING ELSE. IF RESPONDENT MENTIONS MIXED DISHES LIKE A PORRIDGE, SAUCE, OR SOUP, PROBE: C) WHAT INGREDIENTS WERE IN THAT [MIXED DISH]? PROBE: ANYTHING ELSE? UNTIL RESPONDENT SAYS NOTHING ELSE.	

AS THE RESPONDENT RECALLS FOODS, CIRCLE THE 1 BY THE CORRESPONDING FOOD. IF THE FOOD IS NOT LISTED IN ANY OF THE FOOD GROUPS BELOW, WRITE THE FOOD IN THE BOX LABELED 'OTHER FOODS.' IF FOODS ARE USED IN SMALL AMOUNTS FOR SEASONING OR AS A CONDIMENT, INCLUDE THEM UNDER THE CONDIMENTS FOOD GROUP. ONCE THE RESPONDENT FINISHES RECALLING FOODS EATEN, READ EACH FOOD GROUP WHERE '1' WAS NOT ENTERED IN THE RESPONSE BOX, ASK AND ENTER '1' IF RESPONDENT SAYS YES, '2' IF NO, AND '88' IF DON'T KNOW.

OTHER FOODS: PLEASE WRITE DOWN OTHER FOODS (TO THE RIGHT OF THIS BOX) THAT RESPONDENT MENTIONED BUT ARE NOT IN THE LIST BELOW. THIS WILL ALLOW THE SURVEY SUPERVISOR TO CLASSIFY THE FOOD LATER.	**RESPONSE CODES**	**WRITE FOODS MENTIONED**	**HOW MANY TIMES?**
Food made from grains such as rice, noodles, porridge	YES . . . . . 1 NO . . . . . 2 DON'T KNOW . . . 88		
Beans	YES . . . . . 1 NO . . . . . 2 DON'T KNOW . . . 88		
Nuts and seeds	YES . . . . . 1 NO . . . . . 2 DON'T KNOW . . . 88		
Pumpkin, carrots, squash, or sweet potatoes that are yellow or orange inside	YES . . . . . 1 NO . . . . . 2 DON'T KNOW . . . 88		
White potatoes, white yams, or any other foods made from roots	YES . . . . . 1 NO . . . . . 2 DON'T KNOW . . . 88		
Any dark green leafy vegetables such as amaranth leaves, moringa, morning glory, water spinach	YES . . . . . 1 NO . . . . . 2 DON'T KNOW . . . 88		
Ripe mangoes, ripe papaya, jackfruit	YES . . . . . 1 NO . . . . . 2 DON'T KNOW . . . 88		
Any other fruits or vegetables	YES . . . . . 1 NO . . . . . 2 DON'T KNOW . . . 88		
Liver, kidney, heart, or other organ meats	YES . . . . . 1 NO . . . . . 2 DON'T KNOW . . . 88		
Flesh foods (ie meat, such as beef, pork, chicken, or duck)	YES . . . . . 1 NO . . . . . 2 DON'T KNOW . . . 88		
Wild animals like frogs, snails, crabs, insects	YES 1		

OTHER FOODS: PLEASE WRITE DOWN OTHER FOODS (TO THE RIGHT OF THIS BOX) THAT RESPONDENT MENTIONED BUT ARE NOT IN THE LIST BELOW. THIS WILL ALLOW THE SURVEY SUPERVISOR TO CLASSIFY THE FOOD LATER.	**RESPONSE CODES**	**WRITE FOODS MENTIONED**	**HOW MANY TIMES?**
	NO . . . . . 2 DON'T KNOW . . . 88		
Duck or chicken eggs	YES . . . . . 1 NO . . . . . 2 DON'T KNOW . . . 88		
Fresh or dried fish	YES . . . . . 1 NO . . . . . 2 DON'T KNOW . . . 88		
Small rice field fish	YES . . . . . 1 NO . . . . . 2 DON'T KNOW . . . 88		
Any foods made from beans, nuts, or seeds	YES . . . . . 1 NO . . . . . 2 DON'T KNOW . . . 88		
Cheese, yogurt, or other milk products	YES . . . . . 1 NO . . . . . 2 DON'T KNOW . . . 88		
Breastmilk	YES . . . . . 1 NO . . . . . 2 DON'T KNOW . . . 88		
Any oil, fats, or butter, or foods made with any of these	YES . . . . . 1 NO . . . . . 2 DON'T KNOW . . . 88		
Any sugary foods such as sweets, candies, cakes, or biscuits	YES . . . . . 1 NO . . . . . 2 DON'T KNOW . . . 88		
Any packaged snacks such as chips	YES . . . . . 1 NO . . . . . 2 DON'T KNOW . . . 88		
Condiments for flavor, such as soy sauce, prahok	YES . . . . . 1 NO . . . . . 2 DON'T KNOW . . . 88		

OTHER FOODS: PLEASE WRITE DOWN OTHER FOODS (TO THE RIGHT OF THIS BOX) THAT RESPONDENT MENTIONED BUT ARE NOT IN THE LIST BELOW. THIS WILL ALLOW THE SURVEY SUPERVISOR TO CLASSIFY THE FOOD LATER.	**RESPONSE CODES**	**WRITE FOODS MENTIONED**	**HOW MANY TIMES?**
CHECK CATEGORIES *all 'no' >> go to 85. If at least one 'yes' or all 'DK' go to 86*			
106. DID [*child's name*] EAT ANY OTHER SOLID, SEMI-SOLID, OR SOFT FOODS YESTERDAY DURING THE DAY OR AT NIGHT? IF 'YES' PROBE: What kind of solid, semi-solid, or soft foods did [child's name] eat?	1 = Yes >> go back to list and record foods eaten. Then continue. 2 = No >> skip to 87 88 = Don't Know >> skip to 87		
107. HOW MANY TIMES DID [*child's name*] EAT SOLID, SEMI-SOLID, OR SOFT FOODS OTHER THAN LIQUIDS YESTERDAY DURING THE DAY OR AT NIGHT?	___ ____ DON'T KNOW . . . 88		

VIII. CHILD CARE AND DEVELOPMENT

Check age of child:

- ☐ Child age 0-5 months ⇨ End Interview
- ☐ *Child age 6-23 months ⇨ Continue with this module.*
- ☐ Child age over 23 months ⇨ End Interview

QUESTION	RESPONSE
108. IN THE PAST 3 DAYS, DID YOU OR ANY HOUSEHOLD MEMBER AGE 15 OR OVER ENGAGE IN ANY OF THE FOLLOWING ACTIVITIES WITH (*CHILD'S NAME*): *If yes, ask:* WHO ENGAGED IN THIS ACTIVITY WITH (*CHILD'S NAME*)? *Read and circle all that apply.* a) TOLD STORIES TO (*CHILD'S NAME*)? b) SANG SONGS TO OR WITH (*CHILD*? c) TOOK (*CHILD*) OUTSIDE THE HOME? d) PLAYED WITH (*CHILD*)? e) NAMED, COUNTED OR DREW THINGS WITH (*CHILD*)? f) SHOW OR TEACH (*CHILD*) SOMETHING NEW? g) TALK WITH (*CHILD*) AND ASK SIMPLE QUESTIONS? h) PRAISE (*CHILD*) FOR WHAT S/HE IS LEARNING? i) *SHOW AFFECTION TO (CHILD)?* j) *HIT (CHILD) FOR MISBEHAVING?* k) *CRITICIZE OR YELL AT (CHILD)?*	Mother Father Grandmother Other Told Stories 1 2 3 4 Sang Songs 1 2 3 4 Took on outing 1 2 3 4 Played 1 2 3 4 Counted, Drew 1 2 3 4 Teach/show new 1 2 3 4 Talk/ask questions 1 2 3 4 Praise for learning 1 2 3 4 Show affection 1 2 3 4 Hit 1 2 3 4 Yell 1 2 3 4

88	QUESTIONS	Everyday 1	Several times/week 2	Once / week 3	A few times/ month 4	Several times/ year 5	Not at all 6
a)	HOW OFTEN DO YOU TALK ABOUT (*child's name*) YOUR CHILD'S WEIGHT AND HEIGHT WITH YOUR SPOUSE (OR PARENTS OF THE CHILD)	☐	☐	☐	☐	☐	☐
b)	HOW OFTEN DO YOU TALK ABOUT YOUR CHILD'S FEEDING WITH YOUR SPOUSE?	☐	☐	☐	☐	☐	☐
c)	HOW OFTEN DO YOU TALK ABOUT (*child's name*) NEW SKILLS /DEVELOPMENT WITH YOUR SPOUSE?	☐	☐	☐	☐	☐	☐
d)	HOW OFTEN DO YOU TALK WITH YOUR SPOUSE ABOUT CARE OF (*child's name)*?	☐	☐	☐	☐	☐	☐
e)	HOW OFTEN DO YOU TALK ABOUT PARENTING WITH OTHER PERSONS (NOT SPOUSE AND PARENTS)	☐	☐	☐	☐	☐	☐
f)	HOW OFTEN DO YOU TALK ABOUT (*child's name*) FUTURE?	☐	☐	☐	☐	☐	☐

QUESTION	RESPONSE
89. WHEN DO YOU FEEL STRESSED OR WORRIED?	Family does not help/support .. . . .1 Husband causes trouble. . . . . .. 2 When sick . . . . 3 Child is sick . . . . 4 Child is not obedient. . . . . .5 Neighbors are in conflict . . . . . 6 Family is in conflict . . . . . 7 Income poor . . . . 8 Not enough food ……. . . . . 9 Other _____ 99
90. WHEN DO YOU FEEL HAPPY?	Family helps/supports . . . . 1 Husband plays with child . . . . . 2 Husband does not cause trouble. . 3 Husband is kind……. . . . . 4 Not sick . . . . ….. ... . 5 Child is not sick . . . . 6 Child is obedient. . . . . 7 Neighbors are in harmony . . . . . 8 Family harmony . . . . . 9 Family standard of living. . . . . .. 10 Enough food ……. . . . . 11 When get income . . . . . 12 Other _____ 99
91. ON A REGULAR DAY, HOW MANY HOURS DO YOU SPEND TIME TALKING, WALKING, AND/OR PLAYING WITH (*child's name)*?	_____ HOURS _____ MINUTES
92. ON A REGULAR DAY, HOW MANY HOURS DOES A DIFFERENT ADULT SPEND TIME TALKING, WALKING, AND/OR PLAYING WITH (*child's name)*?	_____ HOURS _____ MINUTES WHO IS THE ADULT? Mother . . . . 1 Father . . . . . 2 Grandmother/father . . . . 3 Aunt . . . . . 4 None . . . . . 5 Other _____99
93. *(child's name)* LETS ME KNOW WHEN S/HE IS FULL	Yes . . . . . 1 No . . . . . 2 Don't Know 88
94. *(child's name)* LETS ME KNOWS WHEN S/HE IS HUNGRY	Yes . . . . . 1 No . . . . . 2 Don't Know 88
95. I LET (*child's name*) DECIDE HOW MUCH TO EAT	Yes . . . . . 1 No . . . . . 2 Don't Know 88
96. I KEEP TRACK OF HOW MUCH FOOD THE CHILD EATS EVERY MEAL	Yes . . . . . 1 No . . . . . 2 Don't Know 88
This is the final section of the interview. It is about your ideas and opinions only. There are no right or wrong answers. I will read a statement. Tell me if you agree, somewhat agree, or disagree with each statement.	
97. I PLAY A CRUCIAL ROLE IN MY CHILD'S DEVELOPMENT AND GROWTH	Agree . . . . . 1 Somewhat agree . . . . . 2 Disagree . . . . . 3 Don't Know 88
98. EVEN WHEN I AM BUSY WITH MY WORK, I CAN MAKE TIME FOR MY CHILD IN ORDER TO TAKE CARE OF HIM/HER.	Agree . . . . . 1 Somewhat agree . . . . . 2 Disagree . . . . . 3 Don't Know 88

QUESTION	RESPONSE
99. I THINK PRAISING CHILDREN WHENEVER HE/SHE TRIES TO DO SOMETHING NEW IS IMPORTANT	Agree . . . . . 1 Somewhat agree . . . . . 2 Disagree . . . . . 3 Don't Know 88
100. A CHILD SHOULD BE ABLE TO EAT WHATEVER S/HE WANTS FOR SNACKS WHEN HUNGRY	Agree . . . . . 1 Somewhat agree . . . . . 2 Disagree . . . . . 3 Don't Know 88
101. I WILL RETRY NEW FOODS FOR THE YOUNG CHILD IF THEY ARE REJECTED AT FIRST	Agree . . . . . 1 Somewhat agree . . . . . 2 Disagree . . . . . 3 Don't Know 88
102. IT IS IMPORTANT TO HELP OR ENCOURAGE A YOUNG CHILD TO EAT	Agree . . . . . 1 Somewhat agree . . . . . 2 Disagree . . . . . 3 Don't Know 88
103. IT IS IMPORTANT FOR ADULT CAREGIVERS TO DECIDE HOW MUCH A CHILD EATS	Agree . . . . . 1 Somewhat agree . . . . . 2 Disagree . . . . . 3 Don't Know 88
104. WHEN DO YOU USUALLY WATCH TV?	Morning . . . . . 1 Afternoon . . . . . 2 Evening . . . . . 3 Night . . . . . 4 No set time usually . . . . . 5 Do not watch. . . . . 6 END INTERVIEW
105. WHAT STATIONS DO YOU MAINLY WATCH?	TV5……. . . . . 1 HangMeas TV. . . . . 2 CNC TV . . . . . 3 My TV . . . . . 4 Bayon TV . . . . . 5 TVK . . . . . 6 SEATV . . . . . 7 CTN. . . . . 8 Other _____99
106. WHO ELSE USUALLY WATCHES WITH YOU?	Children . . . . . 1 Husband ……. . . . . 2 Other family. . . . . 3 Neighbor . . . . . 4 Other _____99

QUESTIONNAIRE ID#_____

Women of Reproductive Age

IDENTIFICATION	
PROVINCE DISTRICT COMMUNE VILLAGE CLUSTER NUMBER HOUSEHOLD CODE	. . . .

HOUSEHOLD VISIT	
DATE INTERVIEWER'S NAME AND CODE SUPERVISOR NAME AND CODE	. . . .
TIME INTERVIEW STARTED	
TIME INTERVIEW COMPLETED	

Hello. My name is _____. I am working with the NOURISH Project. We are conducting a survey about nutrition in Cambodia. The information we collect will help to plan services for villages like yours. You were selected for the survey. I would like to ask you some questions. The questions usually take about 1 hour. READ THE CONSENT FORM.

SIGNATURE OF INTERVIEWER: _____ DATE: _____

RESPONDENT AGREES TO BE INTERVIEWED 1
RESPONDENT DOES NOT AGREE TO BE INTERVIEWED . . . . 2 END

Do you have any questions?

May I begin the interview now?

I. BASIC INFORMATION

QUESTION	RESPONSE
1. IN WHAT MONTH AND YEAR WERE YOU BORN? IF DON'T KNOW, KHMER MONTH AND YEAR BORN? 2. HOW OLD WERE YOU AT YOUR LAST BIRTHDAY?	Gregorian Month _____ Gregorian Year ___ ___ ___ ___ Don't Know . . . . . .88 _____ _____ Years
3. HAVE YOU EVER ATTENDED SCHOOL? 4. WHAT IS THE HIGHEST LEVEL OF SCHOOL YOU ATTENDED?	Yes . . . . . 1 No . . . . . 2 SKIP TO Q5 Don't Know . . . . . .88 Primary (1-6) . . . . 1 Lower Secondary (7-9) . . . . 2 Upper Secondary (10-12) . . . . 3 Higher. . . . . 4 Other_____00 No Answer. 99
5. HAVE YOU EVER BEEN MARRIED?	Yes . . . . . 1 No . . . . . 2 SKIP TO Q11 Don't Know 88
6. WHAT IS YOUR MARITAL STATUS?	Currently married. . . . . 1 Widowed . . . . . 2 Divorced . . . . . 3 SKIP TO Q11 No Answer 99
7. DID YOUR (LAST) (HUSBAND/PARTNER) EVER ATTEND SCHOOL? 8. WHAT IS THE HIGHEST LEVEL OF SCHOOL HE ATTENDED?	Yes . . . . . 1 No . . . . . 2 SKIP TO Q9 Don't Know . . . . . .88 Primary (1-6) . . . . 1 Lower Secondary (7-9) . . . . 2 Upper Secondary (10-12) . . . . 3 Higher. . . . . 4 No Answer. 99
9. HOW OLD IS YOUR (LAST) (HUSBAND/PARTNER)?	Under 20. . . . . 1 20-29. . . . . 2 30-39. . . . . 3 40-49. . . . . 4 50-59. . . . . 5 60 or over . . . . . 6 Don't Know . . . . . 88 Age: _____
10. WHAT IS YOUR HUSBAND'S MAIN OCCUPATION? THAT IS, WHAT KIND OF WORK DOES HE MAINLY DO?	Farmer . . . .1 Factory . . . . 2 Retail……... . . . . ….3 Tailor/sewing……... . . . . ….4 Motor taxi……..5 Construction/carpenter……6 Teacher or official……7 Unemployed ……8 Other _____00 Don't know…… … 88
11. WHAT IS YOUR OCCUPATION, THAT IS, WHAT KIND OF WORK DO YOU MAINLY DO? *(Circle the main type of work)*	Farmer . . . .1 Factory . . . . 2 Retail……... . . . . ….3 Motor taxi……..4

QUESTION	RESPONSE
	Construction/carpenter……5 Teacher or official……6 Unemployed ……7 Housewife ……,……8 Daily labor (no regular work)……..9 Don't know…… … 88
As you know, some women take up other jobs for which they are paid in cash or kind. Others sell things, have a small business or work outside sometimes. 12. HAVE YOU DONE ANY SUCH WORK IN THE LAST 12 MONTHS?	Yes . . . . . 1 No . . . . . 2 Don't Know 88
13. IF YES, WHAT KIND OF WORK IS THIS?	_____ _____
14. DO YOU USUALLY WORK THROUGHOUT THE YEAR, OR DO YOU WORK SEASONALLY, OR ONLY ONCE IN A WHILE?	All Year. . . . . 1 Wet Season . . . . . 2 Dry Season . . . . . 3 Sometimes. . . . . 4 No answer.. 99
15. ARE YOU PAID IN CASH OR KIND FOR THIS WORK OR ARE YOU NOT PAID AT ALL?	Cash. . . . . 1 In Kind . . . . . 2 Both cash and in-kind. . . . . 3 Not paid. . . . . 4 No answer.. 99
16. DOES YOUR FAMILY HAVE AN ID POOR CARD? *Request to see the card.*	Yes Observed. . . . . 1 Yes Not Observed . . . . . 2 No . . . . . 3 Don't Know . . . . . .88 No answer.. 99
17. DOES THE HOUSEHOLD OWN ANY AGRICULTURAL LAND (NOT IN COMPOUND)?	Yes . . . . . 1 No . . . . . 2 SKIP TO Q.19 Don't Know 88
18. HOW MANY METERS OR HECTARES OF AGRICULTURAL LAND DO MEMBERS OF THIS HOUSEHOLD OWN?	Sq. Meter 1 #_____ A 2 #_____ Hectares 3 #_____ Ray 4 #_____ Kong 5 #_____ Don't Know 88 #_____
19. DOES YOUR HOUSEHOLD GROW ANY FOOD AT HOME FOR CONSUMPTION? *Request to see the garden.*	Yes Observed. . . . . 1 Yes Not Observed . . . . . 2 No . . . . . 3 SKIP TO Q.25 Don't Know 88
20. IF YOUR HOUSEHOLD GROWS ANY FOOD IN THE HOME COMPOUND, WHAT DO YOU GROW? (CIRCLE ALL GROWN AT DIFFERENT TIMES OF THE YEAR.)	Ptee (Amaranth) . . . . . 1 Moringa. . . . . 2 Pumpkin . . . . . 3 Sweet Potato . . . . . 4 Long Bean . . . . . .5 Jackfruit. . . . . 6 Mango. . . . . 7 Banana . . . . . .8 Other _____ 00 Don't know 88
21. IF YOUR HOUSEHOLD GROWS FOOD AT HOME, WHAT DO YOU DO WITH THE PRODUCE? *(Circle all answers given).*	Eat . . . . . 1 Sell. . . . . 2 Give to family and friends. . . . . 3 Give to neighbors. . . . . .4 Give to animals . . . . . 5 Throw away. . . . . 6 Other _____ 00

QUESTION	RESPONSE
	Don't know 88
22. IF YOU SELL SOME, HOW MUCH MONEY DO YOU MAKE FROM SELLING THESE EACH YEAR?	_____ Riel
[Ask only if she grows ptee, yardlong bean, moringa, or sweet potato in #20. If no, SKIP TO Q25] 23. HOW MUCH OF _____ THAT YOU GROW DID YOUR HOUSEHOLD EAT IN THE PAST WEEK?	None Bunch ½ kilo 1 kilo 2-5 kilos More Amaranth 0 1 2 3 4 5 Moringa 0 1 2 3 4 5 Sweet potato0 1 2 3 4 5 Long bean 0 1 2 3 4 5
Ask only if she grows and eats ptee, yardlong bean, moringa, or sweet potato in #20. If no, SKIP TO Q25] 24. WHO EATS THE PRODUCE USUALLY? *(Read answers and circle all answers given).*	Men . . .. .1 Women . . .. 2 Pregnant women. . .. . 3 Children over 1 year . . . . .4 Children 1 year – 2 years. . . . .5 Children over 2 years . . . .6 Other _____ 00 Don't know 88
Now I would like to ask you about children. 25. HOW MANY CHILDREN DO YOU ALREADY HAVE?	__ __
26. ARE YOU PREGNANT NOW?	Yes . . . .1 SKIP TO Q.29 No . . . . 2 Don't Know . . . . 88 No answer.. 99
27. HAVE YOU BEEN PREGNANT IN THE PAST 12 MONTHS?	Yes . . . .1 No . . . . 2 SKIP TO Q.31 No answer.. 99
28. WAS IT FULL TERM PREGNANCY?	Yes . . . .1 No . . . . 2 No answer.. 99
29. HOW MUCH WEIGHT DID THE HEALTH WORKER ADVISE YOU TO GAIN DURING PREGNANCY?	Less than 10 kg. . . . .1 10-12.0 kg . . . . . 2 12.1- 14.9kg . . . . . 3 14.9-17.9 kg . . . .4 18 kg or more. . . . . 5 Don't Know 88
30. HOW MUCH WEIGHT DID YOU GAIN DURING PREGNANCY?	Less than 10 kg. . . . .1 10-12.0 kg . . . . . 2 12.1- 14.9kg . . . . . 3 14.9-17.9 kg . . . .4 18 kg or more. . . . . 5 Don't Know 88

2. WEIGHT AND HEIGHT

(Women who are not pregnant only.)

31. Weight in kg __ __. __

32. Height in cm __ __ __. __

3. ANEMIA

IF **AGE <18** AND NOT MARRIED; CAREGIVER MUST GIVE CONSENT: DETERMINE WHO IS ADULT RESPONSIBLE/CAREGIVER FOR ADOLESCENT AND ASK THE FOLLOWING.

As part of this survey, we are asking people all over the province to take an anemia test. Anemia is a serious health problem that usually results from a genetic disorder, poor nutrition, infection, or chronic

disease. For the anemia testing, we will need a few drops of blood from a finger. The equipment used to take the blood is clean and completely safe. It has never been used before and will be thrown away after each test. The blood will be tested for anemia immediately, and the result will be told to you and (NAME OF ADOLESCENT) right away. The result will be kept strictly confidential and will not be shared with anyone other than members of our survey team. Do you have any questions?
You can say yes to the test for (NAME OF ADOLESCENT), or you can say no. It is up to you to decide.

Will you allow (NAME OF ADOLESCENT) to take the anemia test?
Yes
No
CIRCLE RESPONSE, AND GET SIGNATURE/MARK IF YES

Signature or Thumb Print of Guardian: _____

IF **OVER 18:** As part of this survey, we are asking people all over the province to take an anemia test. Anemia is a serious health problem that usually results from genetic disorder, poor nutrition, infection, or chronic disease. We ask that women old take part in anemia testing in this survey and give a few drops of blood from a finger or heel. The equipment used to take the blood is clean and completely safe. It has never been used before and will be thrown away after each test. The blood will be tested for anemia immediately, and the result will be told to you right away. The result will be kept strictly confidential and will not be shared with anyone other than members of our survey team. Do you have any questions? You can say yes to the test, or you can say no. It is up to you to decide. Will you participate in the anemia test?
Yes
No
CIRCLE RESPONSE AND GET SIGNATURE/MARK IF YES

Signature or Thumb Print of Guardian: _____

33. GRAMS PER DECILITER __ __ . __

4. HYGIENE AND SANITATION

QUESTION	RESPONSE
34. DO YOU DO ANYTHING TO THE WATER TO MAKE IT SAFER TO DRINK?	Yes . . . . . 1 No . . . . . 2 SKIP TO Q38 Don't Know 88
35. WHAT DO YOU USUALLY DO TO MAKE THE WATER SAFER TO DRINK? (*Confirm by observation*)	Boil . . . . . .1 Filter . . . . . 2 SKIP TO Q37 Nothing . . . . . 3 SKIP TO Q38 Chlorine . . . . . 4 Buy drinking water . . . . . 5 Other _____99 No answer . . . . . 00 *Based on answer above:* Water treatment device observed . . . . 1 Water treatment device not observed. 2
36. PLEASE SHOW ME WHAT HAPPENS TO THE WATER AFTER TREATED.	Transferred to a covered, sealed, clean container. .1 Transferred to a an uncovered/unsealed, dirty container…… 2

QUESTION	RESPONSE
	Kept in the container where it was boiled …….3
37. HOW OFTEN IS THE FILTER CLEANED? (*Confirm by observation*)	Daily . . . . . 1 Every 2-3 days . . . .2 Weekly . . . . . 3 Monthly . . . . . 4 Every few months. . . . . .5 Every year . . . . . .6 Do not remember. . . . . .9 Other _____99 *Observed:* Filter looks clean . . . . . 1 Filter looks dirty. 2
38. WHAT KIND OF TOILET FACILITY DO MEMBERS OF YOUR HOUSEHOLD USUALLY USE? (*Confirm by observation*)	**Flush or pour flush toilet** Flush to piped sewer system . . . . . .1 Flush to septic tank . . . . . 2 Flush to pit latrine . . . . . 3 Flush to somewhere else . . . . . .4 Flush, don't know where . . . . . .5 **Pit latrine** Ventilated improved pit latrine .. . . . .6 Pit latrine with slab . . . . . 7 Pit latrine without slab/ open pit . . . 8 Composting toilet . . . . . 9 Bucket toilet . . . . . 10 Hanging toilet/hanging latrine . . . . 11 No facility/bush/field . . . . . 12 SKIP TO Q.41 Use another person/family's latrine..13 SKIP TO Q41 Other _____99 (SPECIFY) *Answer above is confirmed by observation* Observed . . . . 1 Not observed 2
39. DO YOU SHARE YOUR TOILET FACILITY WITH OTHER HOUSEHOLDS?	Yes . . . . . 1 No . . . . . 2 SKIP TO Q.41 Don't Know 88
40. HOW MANY HOUSEHOLDS USE YOUR TOILET FACILITY?	Number ____ ____ ____ Don't know 88
41. PLEASE SHOW ME WHERE MEMBERS OF YOUR HOUSEHOLD MOST OFTEN WASH THEIR HANDS.	Observed . . . . 1 Not observed, not in dwelling/yard/plot . ... 2 Not observed, no permission to see . . . . . 3 Not observed, other reason . . . . . 4 [Note that anal cleansing water inside latrine is not considered hand washing station]
42. **OBSERVATION ONLY**: OBSERVE PRESENCE OF WATER AT THE SPECIFIC PLACE FOR HANDWASHING.	Water is available . . . . 1 Water is not available 2
43. OBSERVATION ONLY: OBSERVE PRESENCE OF SOAP, DETERGENT, OR OTHER CLEANSING AGENT.	Soap or detergent (bar, liquid, powder) . . .. 1 Ash, mud, sand . . . . 2 None. 3

QUESTION	RESPONSE
44. **OBSERVATION ONLY**: OBSERVE HANDWASHING STATION *(Circle all observed)*	Near to platform (feeding/eating) place. . … 1 Within 10metres from toilet ……2 Protected from persons/ animals……..…..…...3 Water falls freely……...…..…. 4
45. OBSERVATION ONLY: OBSERVE PRESENCE OF A SEPARATE HANDWASHING STATION	Tippy Tap …… . . . . . ….. . . .. . 1 Tippy Tap with soap . . . . , .2 Happy Tap . . . . . ….. . . .. . 3 Happy Tap with soap . . . . , 4 No separate handwashing station . . . . . , 5 Other: _____99

5. DIET

QUESTION
46. PLEASE DESCRIBE EVERYTHING THAT YOU ATE YESTERDAY DURING THE DAY OR NIGHT, WHETHER AT HOME OR OUTSIDE THE HOME. A) THINK ABOUT WHEN YOU FIRST WOKE UP YESTERDAY. DID YOU EAT ANYTHING AT THAT TIME? IF YES: Please tell me everything you ate at that time. PROBE: Anything else? UNTIL RESPONDENT SAYS NOTHING ELSE. THEN CONTINUE TO PART B). IF NO, CONTINUE TO PART B). B) WHAT DID YOU EAT NEXT? Please tell me everything you ate at that time. PROBE: Anything else? UNTIL RESPONDENT SAYS NOTHING ELSE. REPEAT QUESTION B). IF RESPONDENT MENTIONS MIXED DISHES LIKE A PORRIDGE, SAUCE, OR SOUP, PROBE: C) WHAT INGREDIENTS WERE IN THAT [MIXED DISH]? PROBE: ANYTHING ELSE?

AS THE RESPONDENT RECALLS FOODS, UNDERLINE THE CORRESPONDING FOOD AND ENTER '1' IN THE RESPONSE BOX NEXT TO THE FOOD GROUP. IF THE FOOD IS NOT LISTED IN ANY OF THE FOOD GROUPS BELOW, WRITE THE FOOD IN THE BOX LABELED 'OTHER FOODS.' IF FOODS ARE USED IN SMALL AMOUNTS FOR SEASONING OR AS A CONDIMENT, INCLUDE THEM UNDER THE CONDIMENTS FOOD GROUP. ONCE THE RESPONDENT FINISHES RECALLING FOODS EATEN, READ EACH FOOD GROUP WHERE '1' WAS NOT ENTERED IN THE RESPONSE BOX, ASK AND ENTER '1' IF RESPONDENT SAYS YES, '2' IF NO, AND '88' IF DON'T KNOW:

OTHER FOODS: PLEASE WRITE DOWN OTHER FOODS (TO THE RIGHT OF THIS BOX) MENTIONED BUT ARE NOT IN THE LIST BELOW. THIS WILL ALLOW THE SURVEY SUPERVISOR TO CLASSIFY THE FOOD LATER.	**RESPONSE CODES**	**WRITE FOODS MENTIONED:**
FOOD MADE FROM RICE, NOODLES, PORRIDGE	Yes . . . . 1 No . . . . . 2 Don't Know . …. . 88	
BEANS	Yes . . . . 1 No . . . . . 2 Don't Know . …. . 88	
NUTS AND SEEDS	Yes . . . . 1 No . . . . . 2 Don't Know . …. . 88	
PUMPKIN, CARROTS, SQUASH, OR SWEET POTATOES THAT ARE YELLOW OR ORANGE INSIDE	Yes . . . . 1 No . . . . . 2 Don't Know . …. . 88	
WHITE POTATOES OR ANY OTHER FOODS MADE FROM ROOTS (CASSAVA, TARO, TURNIP)	Yes . . . . 1 No . . . . . 2 Don't Know . …. . 88	

OTHER FOODS: PLEASE WRITE DOWN OTHER FOODS (TO THE RIGHT OF THIS BOX) MENTIONED BUT ARE NOT IN THE LIST BELOW. THIS WILL ALLOW THE SURVEY SUPERVISOR TO CLASSIFY THE FOOD LATER.	**RESPONSE CODES**	**WRITE FOODS MENTIONED:**
ANY DARK GREEN LEAFY VEGETABLES SUCH AS AMARANTH LEAVES, MORINGA, MORNING GLORY, WATER SPINACH	Yes . . . . . 1 No . . . . . 2 Don't Know 88	
RIPE MANGOES, JACKFRUIT, RIPE PAPAYA	Yes . . . . . 1 No . . . . . 2 Don't Know 88	
ANY OTHER FRUITS OR VEGETABLES	Yes . . . . . 1 No . . . . . 2 Don't Know 88	
LIVER, KIDNEY, HEART, OR OTHER ORGAN MEATS	Yes . . . . . 1 No . . . . . 2 Don't Know 88	
FLESH FOODS (IE MEAT, SUCH AS BEEF, PORK, CHICKEN, OR DUCK)	Yes . . . . . 1 No . . . . . 2 Don't Know 88	
WILD ANIMALS LIKE FROGS, CRABS, INSECTS	Yes . . . . . 1 No . . . . . 2 Don't Know 88	
DUCK OR CHICKEN EGGS	Yes . . . . . 1 No . . . . . 2 Don't Know 88	
FRESH OR DRIED FISH	Yes . . . . . 1 No . . . . . 2 Don't Know 88	
ANY FOODS MADE FROM BEANS, NUTS, OR SEEDS	Yes . . . . . 1 No . . . . . 2 Don't Know 88	
CHEESE, YOGURT, OR OTHER MILK PRODUCTS	Yes . . . . . 1 No . . . . . 2 Don't Know 88	
ANY OIL, FATS, OR BUTTER, OR FOODS MADE WITH ANY OF THESE	Yes . . . . . 1 No . . . . . 2 Don't Know 88	
ANY SUGARY FOODS SUCH AS CHOCOLATES, SWEETS, CANDIES, PASTRIES, CAKES, OR BISCUITS	Yes . . . . . 1 No . . . . . 2 Don't Know 88	
ANY SALTY FOODS SUCH AS PACKAGED SNACKS (IE CHIPS)	Yes . . . . . 1 No . . . . . 2 Don't Know 88	
CONDIMENTS FOR FLAVOR, SUCH AS SOY SAUCE, PRAHOK	Yes . . . . . 1 No . . . . . 2 Don't Know 88	